

AGRICULTURE STUDY UNIT

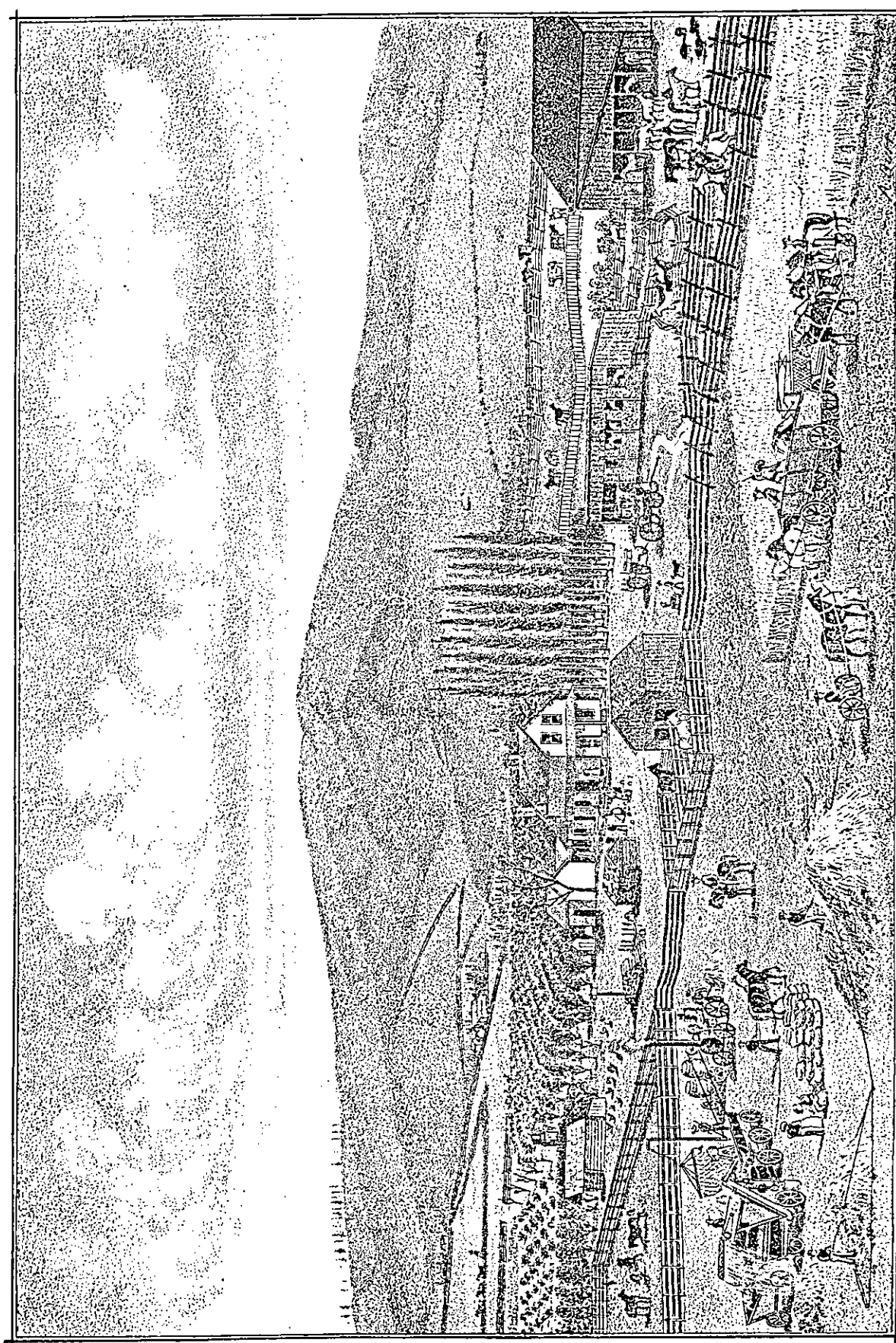
by

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FARM RESIDENCE OF JAMES W. FOSTER, WALLA WALLA COUNTY, W.T.
Gilbert, Frank T.. Historic Sketches.... 1882.

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PREFACE

The Resource Protection Planning Process (RP3) as defined by the United States Department of the Interior (USDI) assists state historic preservation offices and other planning agencies in their efforts to develop a consistent historic resource management process integrating the "identification, evaluation, and protection elements [components] of preservation programs; and to insure that preservation concerns are fully considered in land use decision-making." (USDI 1980:Forward)

Study units are a means of organizing historic resource information into manageable units so it can be useful for planning purposes. Study units are defined in relation to trends, developments, themes, or events that occurred in the past, so that the resources that played a significant role in the past can be understood and evaluated for preservation purposes.

The Agricultural Study Unit is one of 18 historic resource study units established to better identify, evaluate, and protect heritage resources throughout the state. An overview provides the cultural setting for each unit. To realize these objectives, the Office of Archaeology and Historic Preservation (OAHP) is using the study unit documents to develop a preservation process which identifies and organizes information about the state's historic, archaeological, architectural, and cultural resources into a form and process readily useable" (USDI 1980:1). By identifying the resource, evaluating its significance, and devising protection mechanisms, OAHP can more effectively implement a historic preservation program and, better determine survey/inventory priorities in future research efforts.

The primary goal of this particular RP3 study unit is to better identify, evaluate, and protect agricultural resources within the state of Washington. The objectives of this study unit are reflected in components that place agricultural resources within specific historic contexts that contain information on broad trends and patterns of historic development, on the chronological and geographical limits of this development, and respond to the following concerns (USDI 1980:6):

1. What is the setting (Overview).
2. Whether and how to search for historic properties (Identification).
3. How to recognize important properties among all those identified (Evaluation).
4. How to determine the best action to be taken for preservation of significant properties (Protection).

As defined for this study, agriculture is the process and technology of cultivating soil, producing crops; livestock raising, horticulture. OAHP has defined agricultural properties to include barns, hop kilns, agricultural silos, grain elevators, buildings associated with orchards (i.e. prune dryers), farmsteads, corrals, dairies, and houses of significant farmers. Several other types of agricultural resources have been added, such as grain chutes, pipelines, and migrant camps.

The definition of agriculture is specifically narrow, to minimize overlap with any of the 17 other historic resource study units. This of course, is essential for retaining manageability of the RP3 program. The single focus,

plus project constraints and space and time limitations, did not allow for the consideration of those properties that are somewhat related to agriculture, but best fit under other study unit themes. Some examples include grist mills (Manufacturing/Industry), granges (Social Movements and Organizations), agricultural extension services and land grant colleges (Education), utopian agricultural communities (Community Planning and Development), and certain structures or sites associated with persons of various ethnic groups (Ethnic Heritage).

PART I OVERVIEW COMPONENT

Western, Central, and Eastern Washington Environments

Many Washingtonians commonly think of the state as having just two geographical regions--western and eastern Washington, with the Cascade Range as the dividing landform. Agricultural economists, on the other hand, can divide the state into as many as 19 agricultural subregions, excluding the Cascade, Blue, and coastal mountains which have had relatively little agricultural activity other than livestock grazing. Generally, however, and for the practical purposes of this study, the state is best divided into three primary environmental areas for agriculture--western, central, and eastern Washington.

Western Washington characteristically has moderate temperatures, mild winters, thick forests with occasional prairie openings, and moderate to heavy rainfall of about 40 inches in most localities. The main agricultural activities, both past and present, include dairying, in particular, as well as horticulture, floriculture, and nursery production. Grain production and hop growing also once were important, mainly in the last half of the nineteenth century.

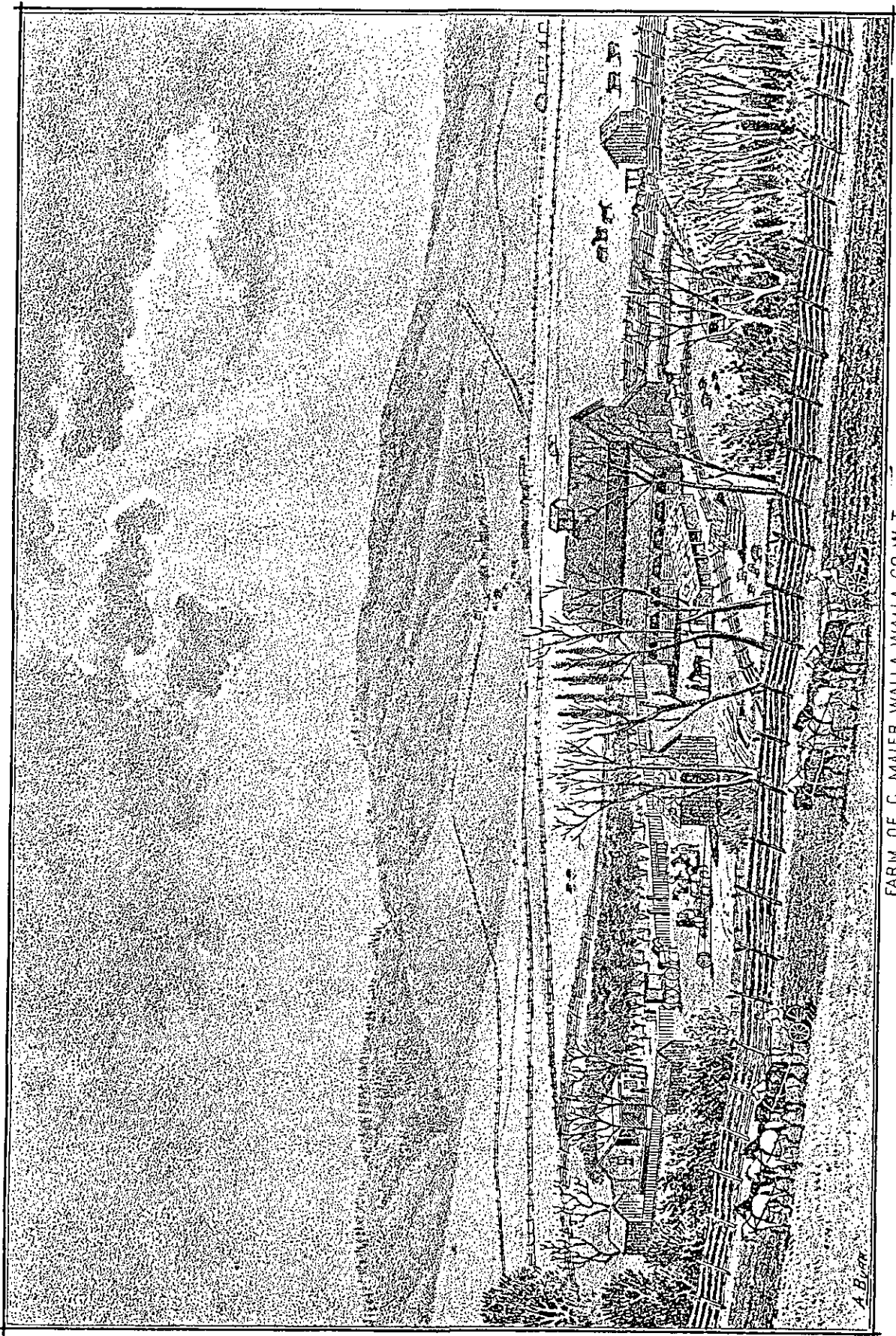
Central Washington is the driest region, receiving as little as 8 or 10 inches of rain annually in many places. Irrigation is essential for growing most crops in this area, and, consequently, canals and irrigation dams are far more prevalent here than in the state's other regions. The central part of Washington has been, and continues to be, an important locality for horticulture (apples, apricots, grapes, and other fruit), hops, and other irrigated crops, as well as livestock and some grain growing and dairying. At the turn of the century, extensive dryland wheat farming was attempted just east of the Columbia River in the driest portions of the central basin. After some initial success, wheat crops failed, and farmers retreated from the area until the late 1940's, when the Grand Coulee Dam and the Columbia Basin Project began bringing irrigation to these parched, but fertile, lands.

Eastern Washington usually has severe winters and warm summers, but always receives sufficient moisture for dryland crops. The southeast portions, particularly the Palouse country and the Walla Walla locality, have extensive rolling hills covered by fertile grasslands, whereas the Okanogan Highland to the northeast is forested mountainous terrain with frequent prairie clearings. The southeast has long been famed for its high yields of grain, particularly wheat, followed now by lentils or dry peas, but practically every kind of agricultural pursuit has been undertaken in this locality at one time or another. Livestock raising, dairying, and Okanogan Highland. The southeast receives as much as 18 to 20 inches of annual precipitation, whereas much of the Okanogan country gets considerably more. Most of this region does not rely on irrigation.

Historic Overview-

The Early Era (1792 to 1850's)

Agriculture has exerted an impact on both the economy and landscape of Washington since the earliest phase of white settlement. Agricultural activity began in 1792, when Spaniards established the first European colony in the Pacific Northwest at Neah Bay. Known as Nunez Gaona, this settlement was abandoned within the year, but the temporary occupants of the small fortified



FARM OF C. MAIER, WALLA WALLA CO. W. T.
Gilbert, Frank. T.: Historic Sketches.... 1882.

village of 10 houses kept the region's first gardens, cattle, sheep, goats, and poultry.

Two decades later, newly arrived American and British fur hunters also planted gardens at their trading posts. As early as May 1811, American traders planted vegetables at Fort Astoria (in present day Oregon); and, throughout the rest of the decade, British employees of the North West Company at the fort maintained gardens as well. By the mid 1820's, Fort Vancouver and other Hudson's Bay Company (HBC) posts were raising grain, vegetables, fruit, cattle, and hogs. At Fort Nisqually, established in 1833, a particularly noteworthy livestock operation was begun and successfully directed by Dr. William Tolmie for many years.

By 1839, a group of HBC men had organized the Puget Sound Agricultural Company and directed the cultivation of new cropland at Cowlitz Prairie near present day Toledo. "Cowlitz farm" began operations under the direction of the French Canadian named Simon Plamondon, who, in the following year, supervised the harvesting of 1000 acres of crops. The Puget Sound Agricultural Company also absorbed "Nisqually farm," as the livestock operation at Fort Nisqually had come to be known. With the inception of this company, the British were attempting to expand beyond mere subsistence gardening to a system of export agriculture. Their intention was to ship farm products to Russian Alaska, California, England, and the Sandwich Islands (Hawaii). While these goals were only partially fulfilled, but the company usually made a profit.

After the signing of the Oregon Treaty of 1846, which established the present boundary between Washington and British Columbia, the Puget Sound Agricultural Company was allowed to continue operations for a few years in American territory. It did so, of course, under the handicap of serious encroachment by newly arrived American immigrants. Eventually, much of the company's land was divided up among the British and French Canadians who had been farming it.

Prior to 1846, the HBC had discouraged Americans from settling north of the Columbia River in an attempt to maintain the area as British territory. Most American immigrants were satisfied to settle in Oregon's Willamette Valley since that had been the objective for most of them when they came west. A few others, however, eyed the country north of the Columbia in defiance of the Hudson Bay Company. In 1845, Michael T. Simmons and several other Americans settled on the shores of Budd Inlet at present day Tumwater. At about the same time, George Waunch moved to a location near present day Centralia, and John R. Jackson established a claim on Cowlitz Prairie north of Toledo. By 1848, just two years after the United States acquired sole possession of the region, more pioneer farmers had come to stake claims in the Cowlitz River country and other parts of southwest Washington. By the early 1850's, American farmers had spread out across the Puget Sound country as well.

East of the Cascade Range, missionaries had planted crops as early as 1837 in their efforts to convert the Indians and teach them to become sedentary farmers. Marcus Whitman, just one example of a number of farmer/missionaries, raised wheat, oats, corn, vegetables, livestock, and fruit at the Waiilatpu Mission near present day Walla Walla. Not only did he introduce the rudiments of farming to the Indians, but his mission farms was an important stopover point for many early Oregon Trail immigrants bound for the fertile valleys west of the Cascades. Eventually, a new cutoff diverted most of the immigrants away from Waiilatpu, and in 1847 the mission was destroyed by elements of the Cayuse tribe. The farms established by Whitman and other Protestant and Catholic missionaries, however, proved that agriculture could be developed east of the Cascades.

By the Mid-nineteenth century, however, there were only a few hundred farms and ranches in the territory, most of which were situated in the fertile lowlands of southwest Washington and the Puget Sound country, with just a scattering of settlers east of the Cascade Range. In the next 50 years, though, agriculture was destined to expand, diversify, and undergo a transformation at a rate unimaginable even in the wildest dreams of the early pioneers.

Farm Acquisition and the Government Land Programs (1850 to early 1900's)

One of the most important factors that influenced development of agriculture in Washington was the process of land acquisition and distribution.

In 1850 the U.S. Congress passed the Donation Land Act, which greatly influenced the pattern of settlement in both early Washington and Oregon. According to the provisions of this law, a married couple was granted 640 acres free of charge; had to be native born or naturalized citizens. These rules applied to immigrants who had arrived prior to December 1, 1846. Those arriving later received the somewhat less generous amounts of 160 acres per single man, or 320 acres for a married couple. Eventually, in 1855, the act was amended so that the most recent immigrants had to pay \$1.25 per acre to gain title after two years occupancy on a claim.

As a result of this early land program, farms in Western Washington (the main area of settlement in the 1850's) averaged several hundred acres in size and were concentrated in the most fertile localities. The individual farmsteads that stood on these relatively large tracts, however, tended to be widely dispersed from one another. Not all claimants, of course, intended to use their land for farming, though most did in this early period. It is noteworthy that many early settlements in western Washington originally were platted on donation land claims by early claimants; examples include Olympia, Seattle, Steilacoom, Port Townsend, Coupeville, Centralia, Chehalis, and Bellingham. Other donation claims eventually were sold by their owners to timber and lumber companies, land speculators, promoters, or other settlers.

In 1862, Congress passed the Homestead Act, which granted up to 160 acres to any U.S. citizen, native born or naturalized, who completed five years residency on a claim and made the required "improvements." The only cash payment required was for minimal filing fees. A settler could also opt to "pre-empt" his claim and gain title, usually after only six months of occupancy, by paying \$1.25 per acre. Settlers could not file claims at the United States land offices, however, until after government surveyors actually marked out the township/range grid system on the landscape with corner markers. The more populous and important areas were surveyed shortly after the mid-nineteenth century, but many out-of-the-way localities were not done until the 1890's or later.

It was under the provisions of the Homestead Act and similar laws that the greater portion of Washington's agricultural regions were settled, both west and east of the Cascades. By this time, of course, the earlier Donation Land Law had expired. After the government granted a "patent" (title) to a claimant, the owner had full legal rights to the property and was free to sell or dispose of it as he saw fit. Over the past century, a small proportion of homesteads have remained in the hands of the original claimant's descendants, but the vast majority of claims have passed on to other owners and have been subdivided.

Not every claimant intended to plant crops and become a settled farmer.

Some filed on lands with no intention of settling down, but simply to "prove up," sell out, and move on with cash in hand. Speculators sometimes acquired homestead properties for subdivision and resale. Cattle ranchers often obtained a homestead to serve as a base from which to run livestock on nearby open, unclaimed rangeland. Eventually, legislation was passed specifically for ranchers, but it was far too late in coming to appreciably benefit cattlemen and horse breeders. The great majority of claimants, however, were honest and sincere in their dealings at the government land offices, and many prospered on their farms. The Homestead Act, at any rate, had a great impact on settlement patterns throughout Washington in the late nineteenth century, and even into the earliest years of the twentieth century.

In some of the marginal, semiarid, and treeless regions east of the Cascades, it was difficult to make a living on a wheat farm or cattle ranch of just 160 acres. Consequently, some settlers attempted to use the Timber Culture Act of 1873 to enlarge their holdings. According to the provisions of this law, an individual could gain title to an additional 160 acres by planting 40 acres of trees, one-half of which had to be alive at the end of a ten-year growing period. This legislation eventually proved impractical for a variety of reasons, and few claimants obtained patents to these kinds of claims. In 1891, the Timber Culture Act was repealed. Some persons also filed claims under the provisions of the Desert Land Act of 1877, which was somewhat more successful and granted property to anyone who could reclaim arid lands by irrigation.

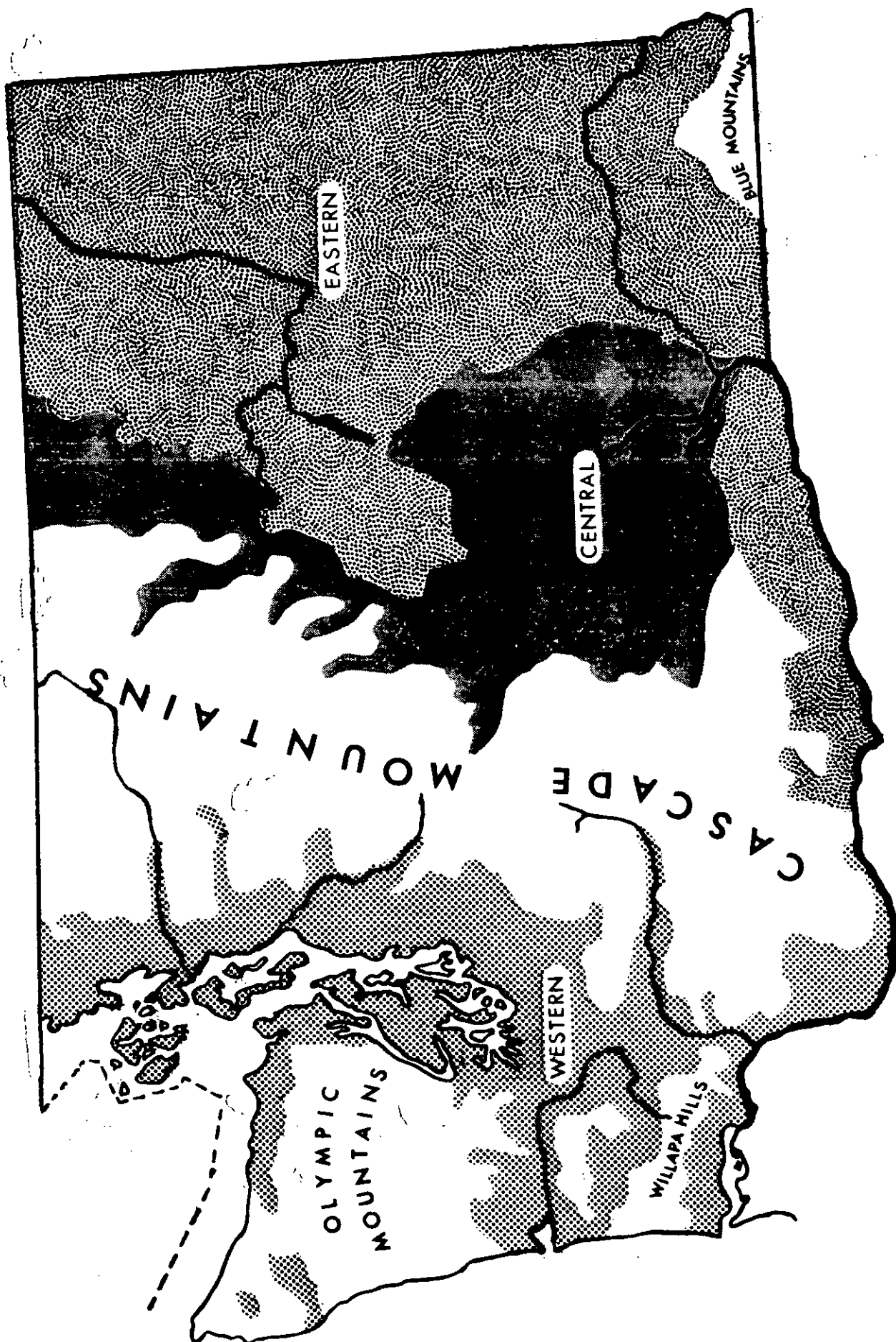
In the 1860's, Congress also had passed legislation granting large portions of the public domain to several railroad companies to encourage construction of railways across the continent to the Pacific Coast. By this means, the Northern Pacific Railroad Company in particular acquired millions of acres of valuable Northwest timberlands and agricultural tracts directly from the federal government. The Northern Pacific, when completed in 1883, extended from Minnesota across the northern Plains and Rockies to Portland, and north to Puget Sound (at Tacoma). The railroad generally received 40 square miles of land for each mile of track laid down in the far West. Thus, in Washington, the Northern Pacific was granted each odd numbered section located within a 40-mile band on either side of the right of way, and further extensions were added to this zone as well.

Consequently the Northern Pacific and other transcontinental railroads became major promoters of agricultural settlement in the Northwest from the late 1870's and into the twentieth century. The railroad companies generally sold land in 20, 30, 40, or 80 acre parcels, and usually at the reasonable rate of \$2.50 per acre. The buyers frequently were European (Scandinavian, German, etc.), American, and even Canadian immigrants arriving on trains directly from the Midwest. Many squatters likewise had already settled on these lands, not realizing that it had been turned over to the railroad. Some squatters moved off, but many others made purchases. Sometimes, entire sections were sold to promoters, who subdivided and resold the acreage at exorbitant rates.

Upon achieving statehood in 1889, 2,000,000 acres of the public domain was granted to Washington by the federal government. These lands were usually sections 16 and 36 of each township, and were allocated for the support of state-operated schools and other institutions. Any unused parcels could be sold for revenue. In eastern Washington, entire sections sometimes were sold to farmers or promoters, though more often these lands were disposed of in smaller lots.

Settlers arriving in the Northwest shortly after the turn of the century often bought abandoned and cutover timberlands from lumber companies. These

AGRICULTURAL REGIONS



parcels, however, generally were infertile or difficult to farm, and the occupants seldom prospered, despite many promotional claims to the contrary. "Stump farms" normally were small in size, and many of the owners had to turn to dairying and livestock raising as their primary means of support.

Transportation and Markets, and the Great Transformation (1880's to 1910's)

Pre-Railroad Period

In the mid-nineteenth century, the lack of railroads and the continued isolation from the national marketplace naturally influenced the character of farming in early Washington. Farmsteads in the 1860's and 1870's frequently only raised livestock for cash, and had clearings in the forest for growing hay and grain. Small gardens and orchards provided produce for home use. Some wheat, oats, barley, potatoes, butter, cheese, hides, furs, wool, beef, pork, and salmon could be sold locally, but the agricultural market was small and depressed, and many settlers survived on primarily a subsistence and barter basis. When eastern Washington was opened up to settlement after the Indian-white conflicts of the late 1850's, cattle were herded in large numbers on the Columbia Plateau, and this for a time proved to be a great stimulus to the livestock industry. Cattle, of course, were mobile and could be driven to the mining camps, military posts, and the early cities and towns where they were sold.

Railroads and Agriculture

It was not until the coming of the transcontinental railroads in the 1880's, however, that Washington was finally, and fully, connected into the national and international marketplace. Consequently, every aspect of agriculture in Washington developed and expanded at a very impressive rate throughout the last two decades of the nineteenth century and into the twentieth century. Railroads also caused enormous urban expansion and a great increase in Washington's overall population, which, of course, further stimulated agricultural production. To illustrate Washington's tremendous growth in this period, it can be noted that the state's population increased to 1,141,990 by 1910, which was 25 times more than what it had been in 1880.

In eastern and central Washington, the arrival of the railways fortuitously coincided with the development of dryland wheat farming, which led to a dramatic rise in both small town and rural populations east of the Cascades. In the late 1870's, farmers in the Walla Walla area and the Palouse Hills had learned that they could move out of the moist bottomlands, in which farming previously had been restricted, and sow grain on the dry and heretofore neglected hillsides. It had been thought that the endless, rolling hills were too dry and thus nonarable. The new dry-farming technique entailed deep initial plowing, followed by frequent cultivation to retard moisture loss through capillary action. This resulted in a phenomenal expansion of the wheat industry.

Once the railroads had tied Washington into eastern and urban markets, farmers could specialize in one or more cash crops (e.g., wheat, apples, etc.), or whatever grew best and brought the highest price. Despite a temporary setback after 1893, when a wave of business failures and economic depression swept the nation, the future for Northwest agriculture looked very bright indeed.

Irrigation

Agriculture, by means of irrigation, expanded into marginal lands in eastern and central Washington in response to the increased food demands of the nations rapidly growing cities, linked to Washington by the new transcontinental railroads (Meinig 1965).

The railroads promoted the irrigation of marginal lands, sometimes acquiring water rights along their right-of-ways, to insure production of profitable export goods and further consolidate their shipping monopolies to distant markets. Although dryland wheat production was still a major factor in the economy of central and eastern Washington, irrigation was allowing for the rapid expansion of the fruit growing industry into these areas (Meinig 1965).

Private and public irrigation and reclamation projects became more prevalent after the 1880's, particularly in central Washington. In fact, irrigation facilities can be found in practically all of Washington's 39 counties.

Two World Wars and the Great Depression, and a New Era (1914 to present)

From 1900 to 1910, the value of American farmland increased at an average of 118 per cent, but even greater prosperity came with the outbreak of World War I. War-torn Europe badly needed foodstuffs, resulting in a dramatic increase in the demand for American agricultural products, particularly after the U.S. entered the international conflict in 1917. From 1914 to 1919, overall crop prices more than doubled, with wheat, for example, rising from 98 cents to \$2.16 per bushel. This boom period continued for a couple of years after the war ended.

Prices began slumping drastically by late 1920, however, when post-war Europe finally regained something of its former level of agricultural production, and newly developed farming regions in Canada, Australia, and South America also had begun competing in the international marketplace.

The era of limitless land and railroad expansion was over as well. Most of the good land had been settled. The large tracts of semi-arid, marginal lands in central and eastern Washington had been abused by poor agricultural practices, and more homesteading than the land could support.

By the end of 1920, overall farm income dropped to less than two-thirds of what it had been the year before. Though the roaring '20's brought some limited recovery to ailing farmers, ironically, the farm sector already had long been depressed when the stock market crashed in 1929 and the country went into a severe economic depression in the 1930's. Washington, however, because of its diversified agricultural base, appears to have been less affected by this overall decline than many other parts of the nation. There were no dustbowls here, such as on the southern Great Plains. In fact, many "dustbowl refugees" considered California and the Pacific Northwest as their last hope and salvation, and they migrated to these regions in considerable numbers.

Certain crops, of course, did better than others, and New Deal policies had an affect on agriculture in Washington during this period. The Agricultural Adjustment Administration (AAA), for instance, encouraged farmers not to overproduce in order to raise prices. The AAA paid subsidies for what farmers did not grow, and encouraged the planting of alternative crops, such as dryland peas instead of wheat in eastern Washington. These kinds of programs have continued to be a part of government agricultural policy to the present day.

The Farm Credit Administration (FCA) provided funds enabling farmers to make payments on mortgages and crop loans, and to acquire necessary machinery and supplies. Full recovery for the agricultural sector would not return, however, until during World War II and the great era of prosperity which followed.

The main effects that the 1920's and the Great Depression had on agriculture in Washington were that some farmers were foreclosed on or otherwise abandoned their property, while some others sold out to neighbors or to absentee landlords and corporations. Overall, there now were fewer farm families, and a number of individual holdings were consolidated into larger tracts, which are tendencies that have continued up to the present time.

Reclamation and Agriculture

The drought years of the late teens and early twenties forced residents in central and southern Washington to focus more seriously upon reclamation irrigation projects. The most significant of all the reclamation projects was centered in the Columbia River basin. The prospects of reclaiming the Columbia "desert" set the stage for the bitter campaigns waged by private utilities against the advocates of public power. The construction of publicly-financed hydro-electric dams on the Columbia River eventually brought irrigation water to basin lands (Mitchell 1965). World War II temporarily postponed completion of the Columbia Basin Reclamation project. With completion occurring after the war there was a dramatic expansion of lands brought under irrigation and subsequent growth of the fruit-growing industry in central Washington.

Gasoline-Powered Mechanization and Rural Electrification

While irrigation and power development dramatically transformed the agricultural landscape, the actual appearance of the typical farmstead changed little throughout the 1920's and into the 1930's. It was the introduction of gasoline-powered mechanization and rural electrification programs that had the greatest impact upon agricultural practices and the built environment on the farm.

Mechanization has influenced agricultural development in Washington from an early date. In fact, commercial agriculture in the Pacific Northwest never really underwent a "pre-mechanized" period, except, perhaps, in the very earliest phase of settlement. As early as the mid-nineteenth century, up to date horse- or mule-drawn machinery was acquired by Washington farmers, though it was difficult and expensive to have it brought from the east by sailing ships or overland in wagons. Much of the machinery, of course, could be built or assembled locally by farmers. Obviously, after the railroads arrived in the 1880's, freight costs were greatly reduced, allowing farmers to acquire even the largest of machines.

The introduction of gasoline-powered tractors and trucks in the twentieth century had a significant impact on agricultural practices. With tractors and trucks, farmers could cultivate far more acreage than they had been able to do with horse- and mule-drawn equipment, and a portion of the farm no longer had to be set aside to raise feed for, or shelter, work animals. By the 1930's, for example, two or three men with a tractor-drawn combine could harvest the same amount of grain as a pair of horse- or mule-drawn combines, each of which required 24 to 36 animals and 3 to 5 men to operate.

In the 1930's, work horses and mules were beginning to pass from the scene, and, correspondingly, the appearance of the farmstead changed with the decline

in use of animal power. Many large horse and mule barns of the dryland wheat country, for instance, no longer were needed to shelter livestock, and were altered into machine sheds to serve tractors, trucks, and other modern equipment. Other livestock buildings, including blacksmith shops, likewise were abandoned or adapted to other uses, as were bunkhouses, which no longer were required to house large numbers of men at harvest time. Many vintage farm buildings were entirely razed to make room for open sheds, modern pole barns, or other low-cost, prefabricated structures. Hay now could be cut and stored in the field, and efficient gas-powered vehicles and electric-powered elevators or other machinery distributed feed as needed, thus further alleviating the need for barns.

Rural electrification in the 1930's obviously had an impact on many aspects of farming, but dairying, in particular, was transformed when automatic milking machines began supplanting the traditional hand-milking methods. The interiors of many old dairy barns were gutted and replaced with modern stanchions and equipment. Refrigeration units and modern cooling tanks also became common on farms.

PART II IDENTIFICATION COMPONENT

Objectives

This component seeks to identify the nature and types of historic agricultural resources in the state, and categorize them into themes, subthemes and resource types. Concerns pertaining to identification include:

1. Types of historic resources included in the study unit.
2. Resource location, density, and distribution.
3. Number of historic resources of that currently exist, and their present condition.
4. Quality and extent of past historic surveys, and type of surveys required.
5. Research/data gaps.
6. Future survey/inventory priorities.

This study unit into subthemes under the broad themes of General Farming, Livestock, Crops, and Ethnic Properties. The subthemes were determined after a complete literature review of historic agricultural sources and of the statewide inventory that identified significant agricultural properties. The basic objective in choosing subthemes and resource types was to make sure that 100 percent of the states historic agricultural properties received full representation in the study unit.

Integrity Standards

During the identification process it was discovered that while thousands of vintage farm structures are extant in every county and agricultural region in the state, only a small percentage of these properties, however, have been inventoried. Currently, 209 National Register, State Register, and State Inventory properties qualify for listing in this study unit, based on standards of integrity for each subtheme as defined in this component.

The element of integrity, as always, is important in determining whether or not a historic agricultural site should be inventoried. Some subthemes will eventually include hundreds of properties (e.g. Commercial Dairying, Grain Production); whereas other subthemes will have considerably fewer sites, perhaps only numbering two or three dozen in each (Ethnic-Finnish Barns; Hop Production; Diversified Farm, Pioneer Subsistence). In the latter subtheme categories, it may be advisable to inventory every one of the relatively few properties that are extant. It is recommended that the insistence on integrity be relaxed in regard to those subthemes that will include relatively few properties. In other words, a considerably greater degree of alteration or decay should be acceptable for rare types of buildings than for more numerous kinds of structures.

In recent decades, metal roofing and siding have been applied to many historic barns, granaries, and outbuildings. Farm and ranch structures are unheated and susceptible to weathering and decay, especially if the roof is worn out. Consequently, the life of many an old barn and granary has been extended simply because of the addition of a modern metal roof. In regard to inventorying these types of structures, it is recommended that metal roofing usually be considered only a minor alteration that has a minimal adverse affect on integrity. Simply put, without metal roofs there would be fewer barns and other outbuildings standing today. Asphalt and wood shingles are too costly

for most ranchers and farmers. In the decades to come, as neglect and weathering continue to take a toll, roofing will be one of the most critical factors in the preservation of barns.

On the other hand, structures on which the walls, as well as roofs, have been sheathed in metal usually are extensively altered, and normally should be treated as if the integrity was seriously impaired.

The vast majority of privately owned property in Washington, whether in city, town, or country, was first and originally acquired by individual citizens utilizing the provisions of the Homestead Act of 1862 and similar laws, or by purchasing lands from Federal railroad grants. Thus, homestead patents and land grants were the means by which the United States government transferred public lands into private ownership in Washington and other western states. Today, every cultural resource inventory in each county seems to include at least a few "homesteads" if not more. Homesteads, however, should not be automatically catalogued under the Agriculture Theme, since large numbers of homesteaders actually had no intention of becoming farmers, other than undertaking the relatively minor agricultural improvements that had to be done to gain title to the land. Rather, many persons filed for homesteads solely for land and timber speculation, or platting townsites, or gaining access to mining areas, or at ferry sites, or for small-scale logging, trapping, and other subsistence activities. Literally hundreds, if not thousands, of claims were filed at the turn of the century on what are now National Forest Service lands for no other purpose than to acquire valuable timber. Consequently, all "homesteads" cannot be automatically listed under the Agricultural Theme, but, instead, each property should be analyzed individually for its agricultural association.

"Farmhouses," "barns," "water towers," and other rural-type buildings also cannot be automatically classified as agricultural properties. Barns and livery stables, for example, were not restricted to the farm, but were built in towns and cities as well. Stables and barns housed carriages and riding horses and once were as common as today's automobile garages. Barns and stables likewise sheltered the mules, horses, oxen, and donkeys used in such nonagricultural activities as mining, logging, and packing. Water towers also were not always directly related to agricultural activity, but often provided a domestic water supply to homes in both urban and rural settings. Many country homes are generically referred to as "farmhouses," when, in fact, the occupants may never have been agriculturalists at all and their place of employment might have been in town.

In recent decades, unwanted barns and outbuildings on many farms have been razed, often leaving the houses standing by themselves. The interrelationship of structures on a farmstead is an essential consideration and, in most of these instances, the integrity of the farm is irretrievably lost. Normally, solitary farmhouses should not be listed in the Agriculture Theme, since they no longer have any importance in that category. It is noteworthy that the architectural styling inherent in country homes usually was the same as that of houses built in town and cities during the same time period. An exception, however, can be made for the houses of significant farmers, developers, engineers, or other persons who made an important contribution to agricultural history. In fact, some persons who played an important role in the state's agricultural development actually resided in urban areas and, in some cases, their homes can qualify for listing in the Agricultural Theme. An exception should be made as well for solitary farmhouses that possess architectural significance.

Following are specific recommendations in regard to surveying and

inventorying historic properties for inclusion in the Agriculture Study Unit: 1) Features on farmsteads should not be inventoried piecemeal, but, rather, as a whole in order to properly identify the interrelationships of structures and to determine whether or not any key elements have been lost; 2) All significant features must be photographed, since little analysis can be done later without adequate pictures; 3) A property may qualify for listing under more than one subtheme, but this situation should be avoided as much as possible to lessen organizational difficulties; 4) Keep in mind that most farmsteads will not have all of the original buildings and features intact; and 5) Properties listed in the Agricultural Theme are subject to the same State or National Register criteria as any other sites in the inventory.

Agricultural Themes, Subthemes and Resource Types

The following is the list of agricultural themes, subthemes and resource types identified during the literature and site inventory review process:
 *(Resource types noted with an asterisk are analyzed at the end of this section because they represent the largest number of inventoried and estimated properties in each subtheme.)

GENERAL FARMING

1a Diversified Farm, Pioneer Subsistence (1792 to 1870's-80's)

Farmstead (Homesteads)*
 Cabin
 Small Barn
 Granary
 Root Cellar
 Ranch
 House
 Garden
 Site

1b Diversified Farm, Market Production (1880's-1940's)

Homestead or Farm	Garage
Ranch	Livery Stable
Cistern*	Icehouse
Garden	Milk House
House*	Windmill*
Barn*	Pumphouse*
Granary*	Ramp and Chute
Grain Crib	Orchard
Machine Shed	Bee Hives and Platform
Shop*	Portable Colony Pig House
Root Cellar	Hay Derrick
Smokehouse*	Stock Trough
Woodshed	Fuel Tank
Outhouse	Utility Building
Livestock Shed	Tank for Chemical Fertilizers
Silo*	or Pesticides
Scale House*	Round-Polygonal Barn*

Chicken Coop and Brooder House	Site
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LIVESTOCK

2 Commercial Dairying (1880's-Present)

Homestead or Farm*	Fence
Dairy Barn*	Milk Cooling Tank
Milk House	Open Shed
Silo	Refrigeration Equipment
House	Site
Corral	

3a Cattle Ranching, Open Range Phase (1850's-1880's)

Homestead or Farm	Shed
Ranch	Cattle Trail*
Cabin*	Spring or Cistern
Corral*	Cow Camp
Small Outbuilding	Site

3b Cattle Ranching, Enclosed Grazing (1880's-Present)

Homestead or Farm	Cistern
Ranch	Water Trough
Cattle Barn*	Corral and Fencing
Calfing Shed	Loading Ramp and Chute
Bullpen	Open Shed
Ranch House	Pole Barn
Feed Storage	Feed Lot
Windmill	Site

4 Horse Raising (Early 1800's-Present)

Homestead or Farm	Windmill
Ranch*	Cistern
Horse Barn*	Hay Derrick
Livery Stable	Fencing
Camp	Shed
Blacksmith Shop	Cabin
Corral	House
Spring	Site
Loading Ramp	

5 Sheep Raising (1850's-1840's)

Sheep Barn*	Cistern
Lambing Shed	Water Trough
Open Shearing Shed	Dipping Vat
Cookhouse	Corral
Bunkhouse	Sheep Camp

Feed Lot
Windmill

Sheep Driveway
Site

6 Small Animal Husbandry (Early 1800's-Present)

Poultry House*
Swine House*
Farrowing Barn*
Grain Crib or Bin
Granary
Shed

Pen
Portable Colony Hog House
Bee Hive
House
Farm
Site

CROPS

7 Grain Production (Early 1800's-Present)

Homestead or Farm*
Ranch
Grain Dryer
Barn (Horse and Mule Barn)
Machine Shed*
Grain Elevator
Granary*
Shop
Icehouse
Smokehouse
Garage

House
Pole Barn*
Windmill
Cistern
Tank House
Fuel Tank
Grain Chute*
Pipeline*
Tramway*
Site

8 Horticulture (Early 1800's-Present)

House
Orchard*
Prune Dryer*
Vineyard
Grapevine
Cranberry Bog
Tram Railway
Berry Field
Vegetable Field
Barn

Machine Shed
Storage Building
Icehouse
Irrigation Works
Garage
Shop
Refrigeration Facility
Farmstead
Site

9 Floriculture and Nursery Production (Mid 1800's-Present)

Greenhouse
Garden
Field
Nursery Seed Bed
Barn
Windmill

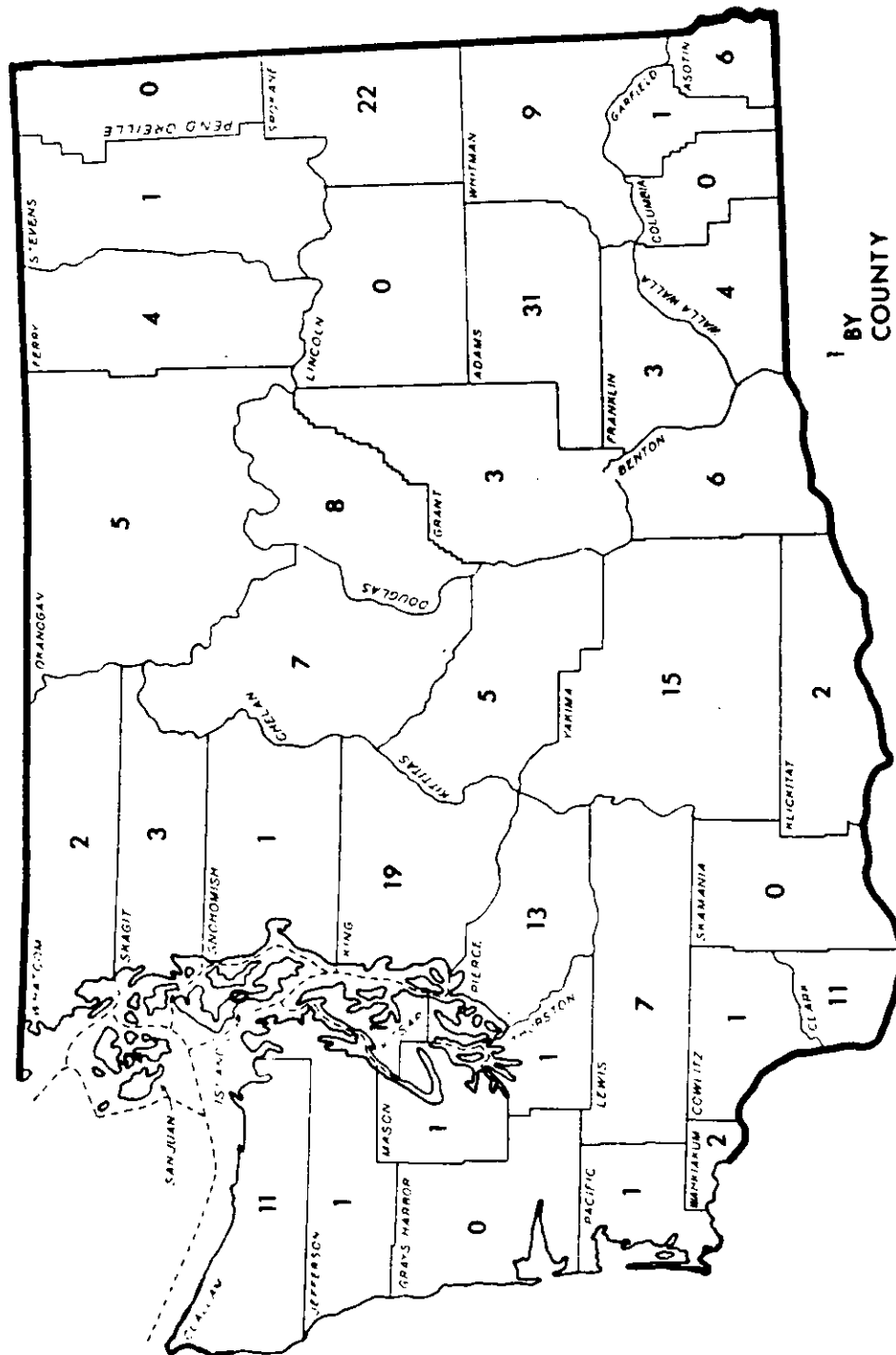
Water Tower
Outbuilding
House
Garage
Trees
Site

10 Hop Production (1865-Present)

Hop Kiln (Curing Shed)*
Machine Shed

Irrigation System
Outbuilding

INVENTORIED AGRICULTURAL SITES AS OF SEPTEMBER, 1985¹



**BY
COUNTY**

WASHINGTON

Mechanics Shed
House
Pumphouse

Barn
Site

11 Irrigation and Reclamation (1880's-Present)

Dam
Headworks
Pumping Station
Siphon
Flume
Raceway
Canal
Ditch

Power Station
Tank House
Waterwheel
Windmill
Dike
Tunnel
Drainage Ditch
Farm

ETHNIC PROPERTIES (Late 1800's-Present)

12a Finnish Farms

Barns*
Octagonal Storage Shed*

Sauna or Bathhouse*
Site

12b Migrant Camps

Cabin (Housing)*
Outbuilding*

Site

12c Truck Farming

Truck Garden*
Field
House
Barn*
Machine Shed
Storage Shed

Garage*
Tank House
Irrigation System
Fuel Tank
Site

GENERAL FARMING

1a Diversified Farm, Pioneer Subsistence (1792 to 1870's-1880's; rarely, into early twentieth century)

Frontier farmsteads were the typical residences of Washington's early pioneers. The first settlers (and also fur traders, missionaries, soldiers, and certain Indian groups) raised grain, fruit, vegetables, hay, and livestock, primarily for home provisioning and personal consumption. Markets for cash crops were extremely limited, or nonexistent. Frontier subsistence farming prevailed only until the 1870's and early 1880's in most of Washington, but lingered on into the early twentieth century in certain rugged, isolated localities of the Cascades, the Olympic Peninsula, and the Okanogan Highland.

Some relatively small-scale cash crop agriculture did begin in the 1840's, but the techniques and structures utilized to produce these cash crops differed little, if at all, from the technology and buildings used by the majority of

farmers surviving strictly on a subsistence and barter basis. In 1840, the Puget Sound Agricultural Company (an affiliate of the Hudson's Bay Company) began harvesting agricultural products for sale to Hawaii, Russian Alaska, and California and Mexico. By mid century, some American settlers also were marketing farm produce in mining camps, at army posts, and to the very small urban populations residing in the state's first permanent communities.

Farmstead Structures-

The architectural styling inherent in the typical subsistence farmstead was simple, basic, and rustic. The buildings were small, and normally of board and batten or simple board construction, or were composed of logs or hewn timbers, notched at the corners. Rarely, adobe was utilized, such as at the Whitman Mission near present day Walla Walla. Structures were covered by simple gable or shed roofs, consisting of either split shingles, poles and boards, or possibly sod. Corrals and fences usually were composed of wood, but also could consist of piled rocks, particularly in central and eastern Washington where stone often was readily available.

Structures remaining from the mid-nineteenth century are rare, probably numbering no more than several dozen throughout the state (the oldest known building still standing in Washington is the Fort Nisqually Granary, dating from 1843). The vicissitudes of time have left none of the pioneer subsistence farmsteads in their complete and original form with all features intact, but examples of some individual, and often solitary, structural types still exist.

1b Diversified Farm, Market Production (prevalent 1880's to 1940's)

It was not until the 1880's and the coming of the transcontinental railroads that the Pacific Northwest was finally, and effectively, linked into the vast national and international agricultural market. As a result, all types of agriculture in Washington developed and expanded at a tremendous rate throughout the next couple of decades and into the twentieth century. Thousands of individual farmers, many of whom were newly arrived immigrants, opted for producing a combination of saleable agricultural products on their farms, including various grains, vegetables, fruits, livestock, and dairy products. In one respect, this style of farming perpetuated the traditional pattern of earlier days, since produce raised on the farm still provisioned and fed the family to a large extent.

This great expansion of agricultural activity caused a corresponding increase in the types, numbers, and sizes of structures found on the farm, and encouraged the adoption of technologically advanced materials, equipment, and machines. The rustic frontier architecture of an earlier era quickly passed from the scene, to be replaced by modern board and frame styles.

The diversified farm, producing several kinds of agricultural products, remained very common into the early decades of the twentieth century. By the 1940's, however, such farms had all but disappeared in that form, largely due to the pressures of the modern marketplace, which forced farmers to specialize in just one kind of agricultural activity (e.g., grain, apples, etc.). Today, perhaps several thousand farms that formerly practiced general diversified agriculture 50 or 75 years ago yet remain throughout Washington, but only a small percentage still have all of the original features intact.

General Purpose Barn-

This is the most common kind of barn found in Washington. All of the barn requirements of diversified farming were usually met by this principal structure, which frequently was the most prominent and architecturally significant building on the farm. It typically housed grain and storage bins, equipment, and wagons or trucks, as well as stanchions and stalls for perhaps 10 or 20 dairy cows and several work horses or mules, and pens for calves, sheep, hogs, or other animals. Stalls for horses usually were half again as wide as cow stalls. A harness room or workshop might be included, and, most often, there was a loft, or mow, for hay storage.

These barns could be small, medium, or large (about 30' to 40' wide, and 40' to 80' long). They were primarily of board and stud construction, with dirt, board, or concrete floors. Sometimes they had stone foundations, which in some cases were quite extensive and impressive. Masonry is more common in central and eastern Washington than west of the Cascades, where it is rare. Gambrel, high gable, and round or arch roofs were best, allowing a larger volume of hay in the mow than did lower roof designs. The more efficient roof styles generally date from the early decades of the twentieth century. Many of these barns had hay hoods, or wind deflecting gable extensions, above the loft doors.

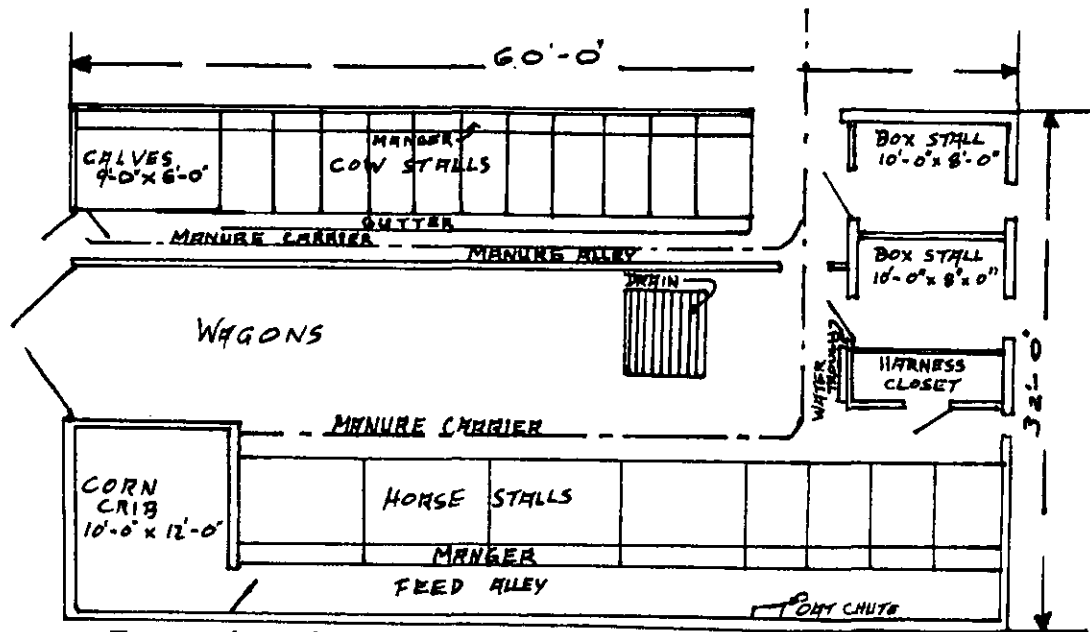
Round and Polygonal Barns--

These structures are rare in Washington and throughout the nation as well, probably comprising less than 1/10th of one percent of all barns. The partial survey work that has been completed so far indicates that probably no more than two or three dozen such barns exist in the state. Round and polygonal barns were not commonly adopted by farmers, but receive much interest today because of their unique architectural styling. The barns are scattered throughout the main agricultural regions of Washington, and housed dairy and beef cattle, horses, mules, and other livestock. Most were erected in the 1910's, when round and polygonal barns were being widely discussed in farm publications, though others date from before or after that decade. They were especially strong if the silo was located in the center, though, of course, many did not include or even have silos.

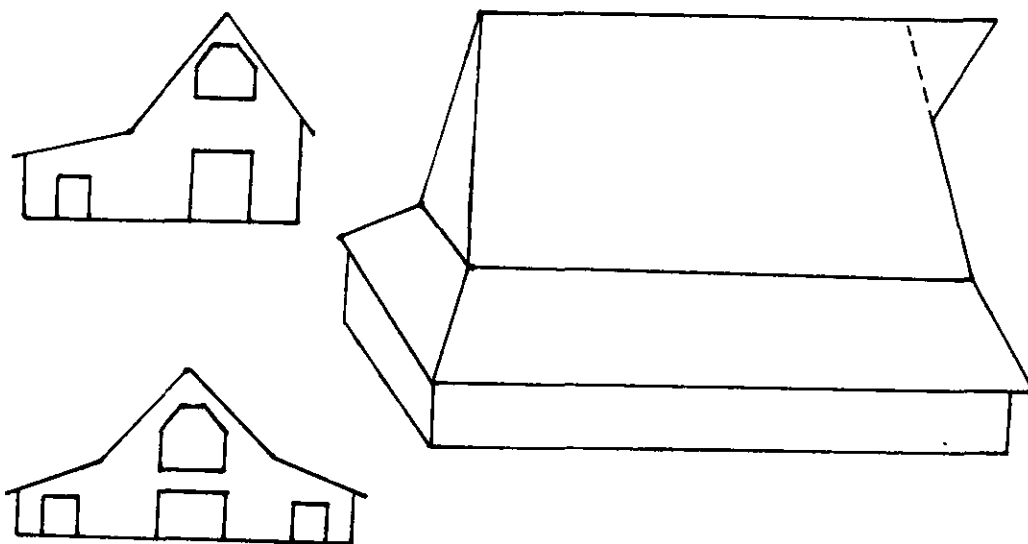
Proponents claimed that these barns were more convenient for storing, feeding, and cleaning, and required less materials to build than rectangular barns of the same size. Critics, however, noted that round and polygonal barns could not be enlarged, were dark at the center, had less loft space than comparable gambrel-roofed barns, and covered more ground space than rectangular barns of the same capacity. Furthermore, few carpenters had the skills or the experience to build them. Costs were greater too, since round and polygonal barns required more feet of track for overhead hay and grain carriers, and all of the equipment and materials had to be specially adapted to accommodate curves.

House--

The home usually was the most prominent structure on the farm after the barn. In fact, the house and barn were, for the most part, the only farmstead buildings to have any pretense of architectural styling. Farmhouses were built



Example Floor Plan for a General Purpose Barn



Variations of Common Western-Type Barn (Eclectic)

in all sizes, but frequently were quite large, such as in those instances where additions were added on over the years. Their architectural design usually was identical to that of houses built in small rural communities, towns, or even cities during the same time period. The work portions of the house (i.e., kitchen, laundry room, etc.) often were arranged so that the wife could observe the farmyard, driveway, and nearby road or highway. Washing facilities frequently were situated inside the back entrance, since that doorway led to the barnyard and was most often used.

Silo--

These tower-like structures are fairly common throughout Washington. Ideally, it was an airtight, watertight tank in which green succulent herbage (silage), or grain or corn, were stored. Silos stood aboveground, or were partially or even totally buried underground. A pit silo, on the other hand, was not a structure at all, but merely a hole in the earth in which silage was stored. Farmers have utilized underground and pit silos for centuries and they still are commonly used today. Standing or aboveground silos, however, were developed fairly recently (about 1875), and were first erected in Washington at, or shortly after, the turn of the century. They ranged in size from about 8' in diameter and no more than 30' high, to 20' in diameter and 60' feet high or larger. There were polygonal and square silos, but round ones were best, since they were structurally stronger and required less material to build. Furthermore, grain or silage packed more evenly in round silos and froze less, since there was a relatively smaller outside surface than in other designs. Foundations usually extended four or five feet below the surface.

Almost every imaginable kind of building material has been utilized in constructing silos, including wood (boards or staves), plywood, stone, brick, concrete, tile, plaster, and sheet metal. Wooden silos were characteristically held together with wires and hoops. Many modern grain silos are composed of steel. Silos usually were roofed, but not always. On older open silos, farmers might have sown oats or rye to provide a protective covering over silage. Modern open silos, on the other hand, often are covered with plastic. Traditionally, feed silage was used 180 or more days a year and was removed from the top at a rate of two inches a day to prevent the formation of mold.

Silos always stood near or adjacent to the barn, or, in the case of some round or polygonal barns, it might actually have been located in the center of the structure. Normally, however, silos were built outside, so that they did not occupy valuable space inside the barn. Silos containing silage have a pungent odor and it is best that such structures stand outside.

Icehouses--

Some farms had icehouses for preserving dairy products, fruits, vegetables, and other farm produce. These usually were small structures built in a variety of styles, but frequently they had a simple gable or hip roof topped by a ventilator cupola. A large doorway allowed the hauling of ice or produce in and out of the structure. They often were constructed of wood, with horizontal board or shingle siding, but brick, stone, or concrete also could be utilized. Icehouses were erected aboveground, or partially or entirely underground. Aboveground structures were the most common, however, because they required no excavation when constructed, and the insulation and drainage were more efficient. The walls could be insulated with packed sawdust or shavings.

Ideally, an icehouse stood in a shady location with a northern exposure. Traditionally, large blocks of natural ice from rivers, lakes, and streams were stored inside, but commercially produced ice was used in more recent times. A ton of ice occupied 35 cubic feet; four or five tons was adequate to supply the needs of a typical farm family. The ice sat on a bed of sawdust a foot or more deep, and sawdust also insulated it from the walls and open air. The icehouse was drained so that melt water flowed away from the ice.

Shop--

This building usually was of simple design, one-story high, and built to retain heat for use in the wintertime, but with sufficient windows for proper lighting. Often, the original farmstead dwelling, an old garage too small for modern automobiles, or some other older structure was converted into a shop. Farm buildings consistently have been readapted to one use or another. The shop might contain metal working equipment, grinder, emery wheel, wood working tools, etc.

Other Buildings--

A variety of other structures might be found on a diversified cash crop farm. One example would be a scale house for weighing hay, wool, etc. Scale houses were small, but large enough to drive a loaded wagon or truck inside. Smokehouses usually were even smaller, were windowless, and often had simple gable roofs. Granaries were larger, stoutly built structures, usually of simple design with a gable roof and perhaps a ventilator at the top. Windmills and cisterns for water supply were common, particularly east of the Cascades. Pumphouses and tall tank houses, on the other hand, were present throughout Washington. Modern pole barns and open sheds have become quite common on farms in recent decades.

LIVESTOCK

2 Commercial Dairying (prevalent 1880's to present)

Dairy Farm--

A dairy farm is where retail or wholesale milk and other milk products are derived from a herd of dairy cattle, which are segregated from other livestock. Traditionally, the commercial dairy operation had about 30 to 80 cows, and also might have accommodated breeding stock. Dairying has occupied an important

role in Washington's agricultural history since the late nineteenth century. Significant numbers of old dairy barns still remain in active use today, although many others have been abandoned or torn down. Dairies often are among the best maintained and preserved farmsteads in the state. They can be found in all of the main agricultural regions, but are especially common in western Washington. The interiors, however, have been modernized in most of the barns still in use.

Dairy Barn--

Traditionally dairy barns contained two rows of cattle stalls with mangers, and milking was done by hand. When large-scale rural electrification began in the 1930's, automatic milking machines became common, eliminating the old hand-milking methods. Consequently, the stalls and mangers in many older barns were torn out and replaced by modern run-through stanchions that stood at either side of newly dug pits in the barn floor. This arrangement allowed a more efficient application of milking machines. Electrification also encouraged the acquisition of refrigeration equipment and modern cooling tanks.

The dairy barn is one of the most prominent features on a traditional dairy farm, and frequently is a massive structure. It typically encloses two rows of stalls and mangers, as well as calf pens, grain bins, bull pens, and feed room. Concrete floors are preferred. Barns with gambrel, high gable, and round or arch roofs are best, since they have more storage space for hay in the loft, or mow, than do other, lower roof designs, such as the monitor, shed, and low gable types. The larger, more impressive barns usually date from the early decades of the twentieth century. The fact that many dairy barns were large, expensive, and conspicuous, tended to encourage owners to add decorative architectural features such as cupolas, boxed cornices, and framed windows to present an appealing appearance. One or more silos usually were incorporated into the dairy.

In the last 50 years, many barns have been replaced by open sheds, one-story milking rooms, and other efficient, low-cost structures. Today, hay frequently is baled and stored in the field, and modern gas-powered vehicles, elevators, and other conveying equipment distribute the feed as needed, thus alleviating the need for barns.

3a Cattle Ranching, Open Range Phase (prevalent 1850's to 1880's, primarily in central and eastern Washington)

Beginning in the 1820's, cattle were herded on a small-scale in western Washington by the Hudson's Bay Company, and, later, by its affiliate, the Puget Sound Agricultural Company. In the 1840's and 1850's, American settlers likewise developed herds west of the Cascades. Today, it is highly unlikely that any identifiable structures or features remain from this earliest, ephemeral period.

This is not the case east of the Cascades. In the mid-nineteenth century, the open range cattle industry quickly shifted to, and greatly expanded in, central and eastern Washington, particularly after the conclusion of hostilities with the Yakima, Cayuse, Walla Walla, Spokane, Coeur d'Alene, and other Indian tribes in 1858.

Cattle Trails--

For the next couple of decades, thousands of head of cattle roamed the

bunchgrass-covered valleys and prairies of the Columbia Plateau. Cattle trails soon were developed to drive herds to mining camps in the northern Rockies and British Columbia, and, in the late 1870's, cattle were headed eastward to stock the newly opened ranges of Montana, Wyoming, and the Dakotas. In these latter regions, Washington and Oregon cattle were preferred, since they were larger, healthier animals than Texas cattle. Eastern Washington livestock also were herded through mountain passes to the growing settlements west of the Cascades.

Cow Camps (Cabins and Corrals)--

Pioneer stockmen established small and widely scattered cow camps at convenient locations next to streams or springs. Some of these settlers were destined to remain permanently on their claims after the close of the open range period, thus, becoming the first permanent white residents of several eastern Washington counties. Hard winter weather, railroads, fences, and farmers brought this era to a close in the 1880's, but some herds did continue to roam free in nonarable localities, such as the channeled scablands of the central basin and portions of the eastern Cascade foothills and the Okanogan Highland.

A typical open-range cow camp had a small cabin, a crude wood or stone corral, an outbuilding or shed, and little else. The cabin consisted of logs or hewn timbers, or perhaps was of board and batten construction. Cottonwoods and other trees lining the nearby streams usually were the source of building materials. The structures were covered with simple shed or gable roofs, composed of poles and boards, or perhaps sod, canvas, or split shingles. Some excellent structures and sites remain from this important phase in Washington's early agricultural history, but the total number of properties probably will not exceed several dozen.

3b Cattle Ranching, Enclosed Grazing (1880's to present)

Cattle Ranch--

Cattle ranching remained extensive, but largely sedentary, after the close of most of the open range in the mid to late 1880's. As pasturage shrank and was fenced in, ranchers increasingly had to rely on grain to feed stock, instead of depending solely on natural grass as formerly. Consequently, larger and more numerous structures were required on cattle ranches. Modern frame buildings often supplanted the rustic log cabins and outbuildings of earlier times, though some crude log structures continued to be built and used up to the present day. Cattle ranching always had been somewhat more prevalent in the central part of the state, than in either the west or east sections.

Cattle Barn--

Corrals, bullpens, sheds, fences, and other structures normally were arranged in an efficient pattern around the livestock barn or other buildings sheltering cattle. Some of the more prominent barns were painted, and displayed decorative architectural features. All types of roof designs (monitor, gambrel, gable, western-type, etc.) were utilized. From the outside, a cattle barn often appeared little different from a dairy, or horse and mule barn. On the inside, however, cattle barns frequently were more open and did not have rows of stalls or stanchions, nor as many pens, as other types of

barns. During the past several decades, feed lots, open sheds, and inexpensively constructed pole barns have largely supplanted traditional cattle barns.

4 Horse Raising (Early 1800's to Present)

Horse Ranch--

Properties in this subtheme are relatively few in number, but can be found in all of the agricultural regions of the state. Horse raising has been conducted throughout all of Washington's recorded history. Indians and white frontiersmen, for instance, bred and traded horses early in the nineteenth century. Later, commercial horse ranching developed alongside the open range cattle industry, particularly in central and eastern Washington from the 1850's to the 1880's. The expansion of large-scale farming in the mid to late 1880's, however, eventually eliminated most of the open range. Some horse herds, though, continued to run free in marginal or nonarable localities of central Washington, mainly in Grant and Douglas counties of the Big Bend Country, and in the Horse Heaven Hills and on the expansive Yakima Indian Reservation of Klickitat, Benton, and Yakima counties. The last big roundups in the latter areas occurred in the early decades of the twentieth century, though some horses still run free today in a few restricted localities of central Washington.

There were other types of horse ranches, of course, which did not depend on the open range, but instead had permanent, fenced-in facilities. These ranches usually were located in the thickly settled agricultural regions of the state. Ranches that solely bred and raised horses never were numerous, but they did play a significant role in Washington's agricultural development. All properties in the Horse Raising subtheme probably will number no more than a few score.

Horse Barn--

Horses were the most expensive farm animals and the most susceptible to disease, thus, they required clean, dry, well-ventilated, and relatively dust free quarters. Barns built specifically for horses were not commonly found on diversified farms, but only on horse ranches, and, consequently, are relatively rare. Horse barns could be elaborate and expensive, though not always so. Gambrel, high gable, gothic, and round or arch roofs were best, because horse raising required a large volume of loft space for hay. The roofs frequently were topped with ventilator cupolas, which could be decorative as well as functional.

On the outside, horse barns did not appear any different from many other barns, but the interior fixtures were rather unique. Horses are powerful, active, and restless animals that can cause much damage with kicks, gnawing, stomping, and pawing. Thus, all interior facilities had to be especially stout and solidly constructed, with heavier gauge materials and no sharp edges to cause injury. Stalls usually extended along the outside walls, leaving the middle of the barn open for exercising the animals (in a dairy barn, of course, this middle space would be occupied by a walkway and a double row of milking stalls). Wood or concrete floors were considered to be more healthful than dirt floors. The horse barn also could contain brood mare stalls, isolated stalls for stallions, standing stalls for harness horses, and a carriage room. If it were a particularly roomy structure, it might have

living quarters for grooms and stablemen.

5 Sheep Raising (prevalent 1850's to 1940's, primarily central and eastern Washington)

The Hudson Bay Company introduced sheep in western Washington by the 1830's, and, for a couple of decades, the British herded flocks on the small prairies near Fort Nisqually, Cowlitz Farm, Fort Vancouver, and in the San Juan Islands. No structures are known to exist from this earliest phase of sheep herding history.

By the mid-nineteenth century, American settlers took over and greatly expanded the sheep industry, which predominantly shifted to the channeled scablands, sagebrush plains, canyons, plateaus, and mountains of central and eastern Washington. The sheep industry then thrived for the better part of a century. By the 1940's, however, a worldwide drop in demand for wool had greatly reduced the number of herds, but some small-scale sheep raising does continue today. Structures built at a sheep ranch headquarters typically were of a functional and low-cost design. Sheep ranches are not exceptionally numerous, and sheep driveways and camps often are ephemeral features, whether in the mountainous zones or the prairies. Consequently, it is estimated that one or two hundred properties might exist in Washington that can be classified in this subtheme.

Sheep Barn--

Sheep are hardy animals with thick woolly hides, and, in the wintertime, only require to be kept dry and out of the wind to thrive. Thus, sheep barns usually were of light construction, strictly functional, and had a minimum of specialized features or equipment. They tended to be long, low structures, with shed, monitor, low gable, or combination roof lines. Less feed storage was required for sheep than other livestock; thus, the lofts tended to be smaller. Interior ceilings frequently were low for added warmth; and the floors were earthen and/or concrete. A good barn was well lighted and ventilated with windows. Typically, sheep barns included large pens, long feed boxes, smaller lambing pens or rooms, and doors to the loft. Often a shepherd's quarters was attached to the barn or was located nearby.

6 Small Animal Husbandry (Early 1800's to Present)

Most buildings standing on poultry or swine farms were simply constructed and strictly functional in design. On occasion, however, poultry and swine houses did exhibit some elements of decorative styling, including ornamental cupola ventilators, rows of windows, shingled siding, and boxed cornices. Small animal husbandry was practiced in all of the major agricultural regions in Washington, and perhaps several dozen sites will qualify for listing in this subtheme.

Poultry House--

The commercial poultry house usually was a long, low, one-story building of wood frame construction. It was solidly built and insulated, and maintained enough warmth to insure that the chickens continued laying eggs through the winter. These structures had monitor, half monitor, gable, combination, or shed roofs, which often were topped with skylights or ventilator cupolas. Rows

of windows frequently extended along the side walls, as did roller curtains, which could be dropped to provide shade. The floors were of either earth, wood, or concrete. Interior fixtures included roosts, nesting areas, feed hoppers, drinking stands, grit and shell boxes, etc. Older poultry houses always were of wood construction, but many modern chicken houses are prefabricated metal structures.

Swine House, Farrowing Barn--

In the wintertime, swine require warm, well-insulated housing. Pigs, of course, do not have the protection of hair or feathers as do other farm animals. Swine houses and barns normally were of board and stud construction, stood one-story high, and had either a monitor, shed, half monitor, combination, or low gable roof. As in the case of poultry houses, swine barns did not require a large loft. Swine houses usually were stoutly built, but with little or no architectural distinction. Windows and ventilator cupolas were common. Farrowing barns typically contained tight, restrictive stalls, which prevented sows from rolling on and crushing piglets.

CROPS

7 Grain Production (Early 1800's to Present)

Grains such as oats, barley, and particularly wheat, usually have been the most important agricultural products grown in the state. Wheat has been cultivated throughout all of the main agricultural regions, but it was, and still remains, especially important to the economy of eastern and central Washington.

Wheat production increased dramatically east of the Cascades during the late 1870's, when farmers learned that the often steep and heretofore neglected hillsides could be farmed using dryland cultivation techniques. Previous efforts at growing grain had been restricted to the moist bottomlands. The new dryland farming methods entailed deep initial plowing, followed by frequent cultivation to retard moisture loss by capillary action. The inception of dryland farming, associated with the coming of the railroads and the opening up of markets, proved a catalyst for tremendous growth in Washington's grain industry.

In addition, wheat production had certain qualities that made it a popular crop for farmers. It required relatively little manpower to operate a wheat ranch, except at harvest time when large numbers of men and animals were needed. Grain was durable and of relatively low bulk, which made for cost-efficient handling, shipping, and storage. And finally, wheat was in wide demand throughout the national and international marketplace.

In the early decades of the 1800's, the flail and other "premechanized" techniques may have been used by the British and the first American settlers who were farming on a subsistence basis, but by mid-century, farmers were harvesting wheat according to the most up-to-date methods and with horse-drawn machinery. Thus, commercial grain production in Washington has nearly always been "mechanized". Prior to 1890, Washington farmers used horses and mules to pull reapers, binders, and headers, which cut the grain; and horse- or steam-powered stationary threshers were utilized to separate the grain kernels from the chaff and stalks. By the turn of the century, new, mobile horse- and mule-drawn combine harvesters were extensively used to cut and thresh the crop, though some farmers continued to use binders, headers, and stationary threshers

out of choice or economic necessity. Regardless of technique, harvesting was labor-intensive and required many horses, mules, and men. The operation of a single combine, for example, required 24 to 36 horses or mules and three to five men, not including support animals and men in auxiliary positions. Wheat originally was stored and transported in gunnysacks, but, in the 1930's, low wheat prices and the high cost of labor led to the bulk handling of grain.

The development of tractor-drawn equipment in the late 1930's and 1940's, associated with a shift from bagged to bulk handling of grain, revolutionized the wheat industry by speeding up the harvesting process and cutting down on labor requirements. It also brought significant changes to the appearance of the farmstead. Large horse and mule barns were no longer needed, and, consequently, many were torn down or altered into machine sheds or shops. Corrals and fences likewise disappeared, and numerous other outbuildings that had been used by livestock were eliminated or rebuilt for other use. Metal-sided pole barns, open sheds, and other modern prefabricated structures were erected for the new machinery. Acreage per farm increased, since an individual now could cultivate more land with less effort. Ranches expanded and absorbed other farmsteads--consolidating them into larger entities and often razing the excess structures.

Today, massive self-propelled combines have become ever more efficient and have further streamlined the harvest process. And correspondingly, the number of necessary outbuildings has dwindled to just a machine shop, shed, or pole barn for housing and maintaining combines, tractors, and trucks.

Horse and Mule Barn, General Purpose Barn--

These structures may well be the most common type of farm building yet remaining in east and central Washington. Gambrel, gothic, high gable, and round or arch roofs were best, because large haylofts were needed to feed and maintain a dozen or more work animals throughout the year. Barns in the Palouse country, and other areas where wheat was grown, tended to be larger on the average than barns used in general diversified farming. A large horse and mule barn, for instance, might be as much as 80' long. Wheat farming could be quite lucrative, and, consequently, many of these structures were quite expensive and exhibited stylish architectural features.

Granary--

These were typically low, stout, gable-roofed structures, which held harvested grain or feed for livestock. Granaries were subjected to tremendous strain, especially at the floor and near the bottom of the walls, thus they usually were strongly built. Frequently, the walls consisted of tightly stacked two-by-four planks. Sometimes, the support beams were clearly visible on the outside of the walls. The height of older granaries was seldom more than 12 feet, which was as high as a man could scoop grain, or dump it into a bin from wagons driven up on a rampway standing on posts. Modern conveyors, elevators, and other equipment, however, have made it possible to use bins standing 20, 30, or more feet high.

Machine Shed--

These structures typically housed a grain grinder, wagon, buggy, binder, mower, plow, harrow, rake, drill, cultivator, combine, or other horse-or tractor-drawn equipment. The machine shed usually was of simple board frame

construction, stood one-story high, had a gable or shed roof, and possibly included a small shop at one end. Doorways and openings were sufficiently wide to allow the removal and return of implements, and the interior was clear of vertical posts. Gradual ramps often led to the main doors to facilitate the moving of machinery. Concrete floors were preferred, but dirt or wood floors also were common.

Pole Barn, Open Shed--

Modern pole barns, sheds, and prefabricated metal buildings have become common on farms since about 1945, as motor-driven technology has replaced the older animal-powered methods and machinery of bygone eras. These newer structures better meet the specialized needs of modern farming, and thus are replacing the picturesque, but outmoded, horse and mule barns and other outbuildings. Pole barns are inexpensive, and quickly and easily constructed. Their distinguishing feature are the specially-treated, rot-resistant poles, which are buried vertically in concrete or the ground, somewhat like fence posts. It is these poles that support the attached framing, walls, and roofs. Modern wood, aluminum, and metal siding are widely applied on the walls and roof, and concrete floors are common, all of which makes for a strong and durable structure. Pole barns also were built in earlier times, but often with untreated poles cut on the farm. The poles decayed quickly in the ground, and, consequently, the old fashioned pole barn usually had a short life.

Grain Chutes, Pipelines, and Tramways--

A number of wheat farmers on the Columbia Plateau of eastern and central Washington utilized these ingenious devices to move grain down the steep, 2000-foot-deep walls of the Snake and Columbia rivers to steamboat landings and railroad sidings. Pipelines and wooden grain chutes, each of which were thousands of feet long, were developed after 1879, but were not entirely satisfactory since they too often ground or seared the grain during its rapid descent. Metal pipelines with jogs every few yards worked somewhat better, since they did not do as much damage to the kernels, but the wheat was expensive to handle since it still had to be taken out of gunnysacks at the top and then bagged again when it reached the bottom.

Other, more efficient devices known as bucket trams and railway trams soon were built, which allowed the wheat to be transported in bags. Bucket trams were gravity-powered mechanisms, consisting of sack-carrying buckets attached to a long, steel cable suspended on poles or towers. A railway tram, on the other hand, was a complicated cable and tram car system, which rode on rails extending down the steeply inclined canyon walls. The cables that these devices utilized often were one, two, or more miles long. The rail tram was the more successful of the two systems, but was also more expensive to construct. In both cases, there generally was a flathouse and cabin for the workers at the top of the tram, and a warehouse, wharfboat, or railroad siding at the bottom. Trams were used until the early 1940's in the deepest portion of the Snake River canyon in southeast Washington and along the steep-walled Columbia River above Wenatchee.

None are in operation today, or remain in a complete or unaltered form. Range fires, decay, and board and metal salvagers have all taken a toll. Some of these sites have all but disappeared, but others retain much of the original grading, wood, and machinery, though in a broken-down, dilapidated state. It appears almost certain that no more than one or two dozen of these features can

be identified in Washington.

8 Horticulture (Early 1800's to Present)

Horticulture entails the cultivation and management of fruit and nut orchards, vineyards, cranberry bogs, and gardens on a small or large scale, and usually for commercial purposes. Fur traders, missionaries, Indians, and other frontiersmen planted Washington's first fruit trees, grapevines, and vegetables during the early decades of the nineteenth century; and American settlers further developed and expanded horticultural activity in the mid 1800's. A few features such as trees and grapevines remain from this early period. The fruit industry, however, did not become truly important until late in the nineteenth century, when all agricultural activity in the state was expanding at a tremendous rate.

Large-scale irrigation projects and a progressive marketing network were developed in the Yakima, Wenatchee, Okanogan, and Walla Walla areas that eventually made central Washington the leader in fruit production, particularly in regard to apple growing. Important horticultural activity, however, occurred in other sections of the state as well. Whitman County, for example, was a leading orcharding area for a short period at the turn of the century. Elsewhere, filberts (nuts) were raised and harvested in Clark, Lewis, and Cowlitz counties of southwest Washington; and cranberries have long been grown in bogs on the North Beach Peninsula of Pacific County and elsewhere on the coast, though the most significant period of cranberry production was short, lasting from only 1909 to 1915. Small gasoline-powered locomotives on short railways were used in some bogs to get the cranberries quickly to cold storage. Strawberries, raspberries, and blueberries have long been important in the lowlands of western Washington.

Fruit Trees (Orchards)--

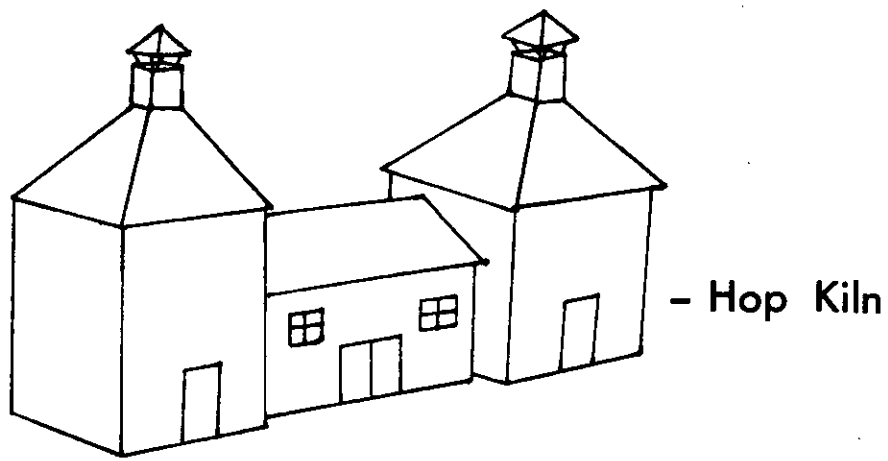
Apples usually have been the foremost crop, but other horticultural products also have been significant, including cherries, pears, plums, apricots, prunes, grapes, cranberries, filberts, walnuts, strawberries, raspberries, and blueberries. Farms producing these crops frequently were small, but labor intensive, thus costs were high. A small barn for several workhorses, mules, and other livestock often stood on the premises, with a machine shed, storage building, and a farmhouse situated nearby. The buildings usually were of a simple, functional design.

Prune Dryer--

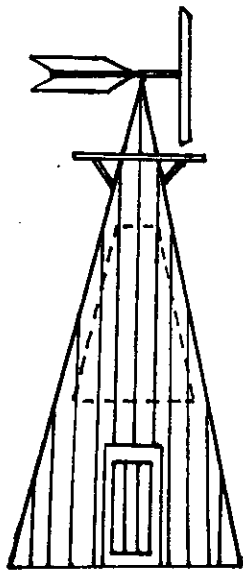
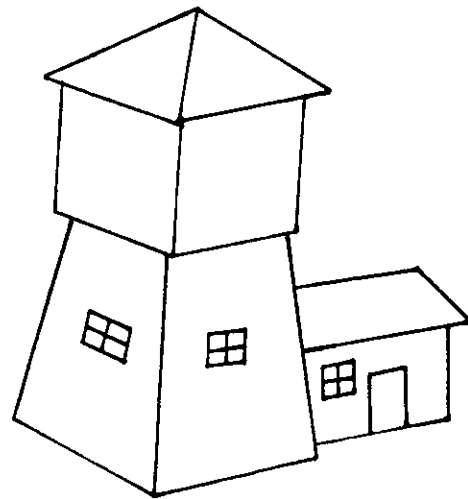
A few examples of these rather unique structures still exist, in southwest Washington and perhaps elsewhere in the state. They date from the turn of the century when prune production played a role in the state's agricultural economy. Prune dryers were small to medium sized buildings, typically one-story high, and of wood frame construction. The roofs often were of gable or hip design, with ventilator cupolas mounted on top. Today, these structures no longer are used in fruit production and have been either adapted to other uses, stand abandoned, or have been razed.

9 Floriculture and Nursery Production (20th Century)

Floriculture is the cultivation and management, usually on a commercial



Tank House -



- Windmill (With enclosed tank or separate cistern)

basis, of ornamental and flowering plants; and nursery production entails the growing of vegetables, flowers, grasses, shrubs, and trees for their seeds, for transplanting, or as stock for budding and grafting. Greenhouses and intensively managed garden plots and fields typically are seen on these farms. Greenhouses are glass-enclosed structures in which plants requiring controlled temperatures are grown.

Nursery production has been conducted throughout all of the main agricultural regions in the state. Flower and bulb growing, however, has been with a few exceptions centered in the Puget Sound lowland, particularly near Bellingham and Puyallup. It is estimated that a few dozen properties will eventually be listed under this subtheme.

10 Hop Production (western Washington, prevalent 1865 to 1940; central Washington, prevalent 1880's to present)

Washington has long been one of the nation's leading producers of hops, which are used by the brewing industry to add bitter flavor to beer. Hops have been extensively cultivated in both west and central Washington, with the Puyallup and Yakima valleys being the key growing areas.

The western region grew the first hops, which were planted in 1865 near Puyallup by Jacob Meeker. Later, his son Ezra Meeker became the largest grower in the nation with 500 acres in production. Besides the Puyallup and White River valleys, hops also were planted in the Snoqualmie, Snohomish, Skagit, and Boistfort areas. After a boom period lasting a couple of decades, the west-side hop industry unfortunately began suffering from infestations of aphids and sooty mold (a fungus)--problems not encountered in the drier, central region. Despite this serious setback, some hop growing did continue in western Washington on a gradually reduced scale throughout the first half of the twentieth century. Yakima valley farmers first planted hops when irrigation projects were begun in the 1880's. The acreage in hops increased dramatically over the next several decades, and, by 1940, the central region had almost entirely taken over the hop industry in the state.

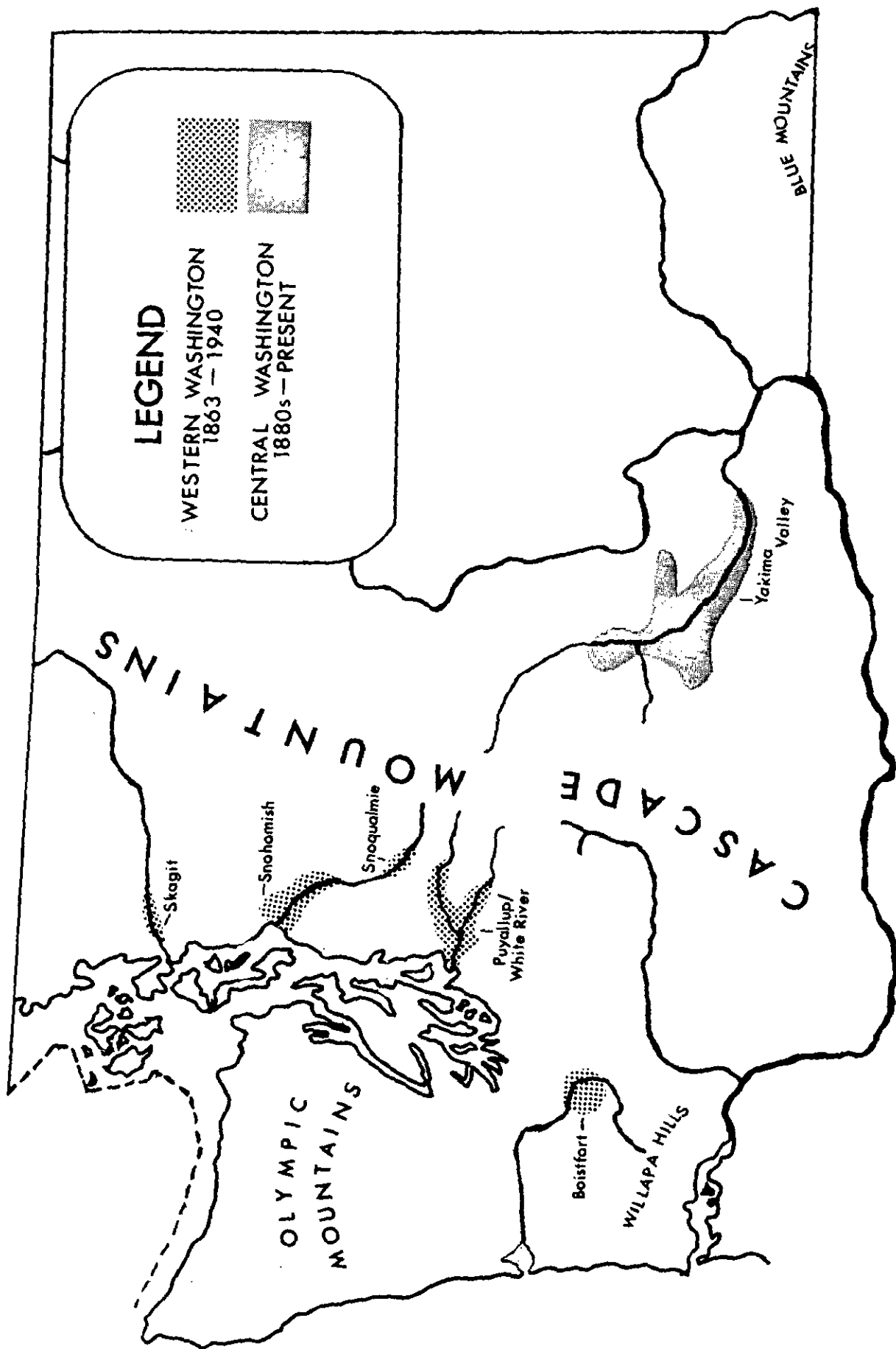
Hop Kiln, Curing Shed--

Structures on hop farms differed little between the west and central regions, except perhaps there might have been fewer migrant workers' camps in western Washington hop growing areas. The major structure associated with the hop industry, of course, was the kiln or curing shed. Their specific designs varied, but common traits were a windowless boxlike shape, a ground-floor furnace to provide heat for drying hop cones, elevated drying floors, and ventilation cupolas. Kilns often were about 30' in height with a drying floor 20' above the ground level. These structures occasionally had two or more drying rooms on either side of a central baling unit. Many old kilns have been long abandoned and neglected. Perhaps one or two dozen of these unique, historic structures yet remain standing in the state.

Kilns of modern design are common today in Benton and Yakima counties. The modern curing shed, however, tends to be a large metal-sided structure utilizing overhead conveyor racks to move the hopvines inside, where the cones are stripped off. Conveyor belts then move the cones onto drying screens. In similar fashion to earlier times, the processed cones eventually are pressed into large bales weighing 200 or more pounds prior to shipping.

11 Irrigation and Reclamation (1880's to Present)

MAIN HOP-GROWING AREAS



Private and public irrigation facilities have been built in practically all of the state's 39 counties, but the largest and most significant development has occurred in the fertile, semiarid lands of central Washington. Large irrigation projects were first undertaken in the Yakima River valley in the 1880's, and have been continually expanded in that region over the years. Also noteworthy is the Columbia Basin Project, which in the late 1940's began using water from Grand Coulee Dam to irrigate tens of thousands of acres in the Big Bend Country, primarily in Grant, Adams, and Franklin counties. Most of this area previously had been sagebrush plains used only by stockmen. Not all of the big irrigation projects, of course, were restricted to the Yakima region and the central basin. Other notable irrigation networks were established in the Okanogan, Methow, Wenatchee, Walla Walla, and Spokane watersheds of east and central Washington, and also near Sequim on the west side of the state. Sequim is an anomaly in moist western Washington. It receives relatively little precipitation because rainfall is diverted by the Olympic Mountains, which form a rain shadow. Consequently, Sequim's farmers must extensively irrigate their crops.

Dams, Pumping Stations, Ditches, Flumes--

Irrigation works, whether large or small, public or private, or developed by an individual or large organization, are many and varied. Dams of all sizes were built of earth, stone, or concrete. The smallest dams and headgates also might consist of wood. Boxlike pumping stations were located along earthen or concrete canals to distribute water to fields or other canals. These pumping stations often consisted of concrete and had electrical equipment to operate pumps. Siphons were composed of metal pipes or iron-banded wooden pipelines and were utilized to distribute water. Finally, small ditches, flumes, and sometimes waterwheels were the last links to a farmer's field in any irrigation system, no matter what its size was.

Not only has irrigation been indispensable to agriculture in much of the state, but so has reclamation. The diking and draining of wetlands to expose arable cropland has been done extensively in western Washington, perhaps most notably in the Skagit River delta. Pumps, drainage ditches, and dikes always are common features in these projects, which, of course, are located in wet, lowland areas. As in the case of irrigation works, a reclamation project might be the result of a small-scale pioneer endeavor or a massive corporate effort, as occurred in the arid lands of the Columbia River basin.

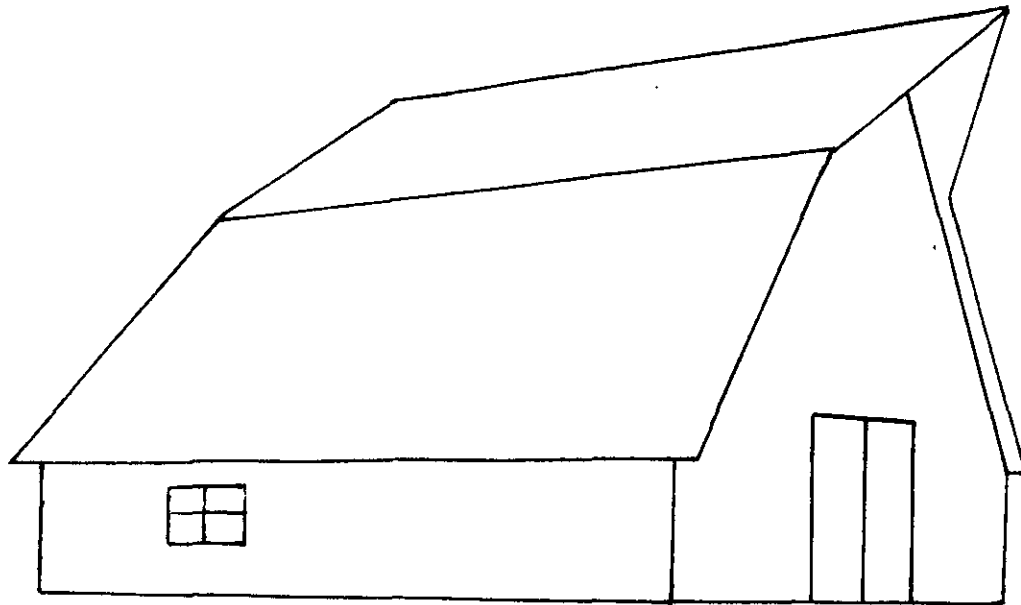
Because of the technological complexity of irrigation and reclamation properties, a HAER survey/inventory of such systems was carried out that identified significant features, and established integrity standards for evaluation of significance.

ETHNIC PROPERTIES

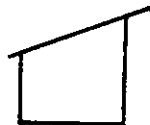
12a Finnish Farms

Barns--

Finnish immigrants began arriving in Washington at the turn of the century and continued to do so for the next several decades. Finns frequently settled in forested regions, such as Stevens County of northeast Washington, or in southwest Washington and other places west of the Cascades. A structure that



Finnish-Style Barn



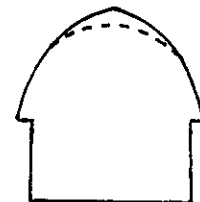
SHED



GABLE



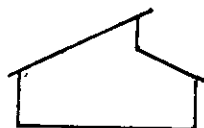
GAMBREL



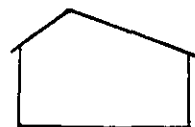
GOTHIC OR ROUND
ARCH



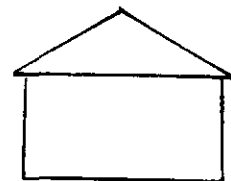
MONITOR



HALF
MONITOR



COMBINATION



HIP

Common Barn Roof Types : Almost any style of roof can be adapted to a given floor plan

is peculiar to Finnish rural colonies elsewhere in the West, and to Washington as well, is the large, distinctive barn. Massive roofs dominate these structures, and extend down over the side walls, which are about 8' or 10' high. At first glance the roofs might appear to be simple gable types, but a closer inspection will reveal that they are slightly gambreled, with a barely perceptible downward break about one-third of the way below the ridgepole. This stylistic feature provided little, if any, increase in loft space, so it can be assumed that this was done for either aesthetic purposes, to better shed snow, or as a cultural tradition, or perhaps for all of these reasons. In addition, these roofs characteristically have a large pointed hood at the front of the barn.

Saunas--

Finns were expert builders with the axe, and frequently erected log and hewn-timbered buildings, in addition to common board-frame structures. One-story saunas, or bathhouses, were always found in Finnish communities and are known to exist in Washington. Saunas could be log structures or of board and frame construction, and usually had a simple gable roof. Interior features included a wood burning stove with a crib for large rocks, barrels for cold and hot water, and tiered benches. Water poured on the heated rocks produced the hot steam bath.

Storage Sheds--

Another unique feature that might be found on a Finnish farm are small, octagonal storage sheds composed of wood. These octagonal structures are known to be of a traditional Finnish design traced to the European homeland.

12b Migrant Camps

Migrant camps were located in areas where seasonal, labor-intensive fruit and vegetable crops were harvested (i.e., apples, hops, asparagus, cherries, etc.). For this reason, they were most common in the irrigated central part of the state, particularly in the Yakima valley. Though Indians and other ethnic groups worked as itinerant laborers in the past, migrant camps have come to be associated, for the most part, with Mexican and Mexican-American workers.

Housing and Outbuildings--

Migrant housing typically was functional, low-cost, and had little, if any, decorative styling. The camps typically consisted of small, one or two room cabins, or long single-story apartment-like structures, chiefly of board and frame or concrete block construction. Outbuildings associated with the camps few, though there may have been outhouses and storage sheds. Older buildings may not have had plumbing, but most of those still in use have been modified to include running water and bath facilities. Migrant camps usually were quickly dismantled when they were no longer needed.

12c Truck Farming

Truck Gardens, Barns, Garages--

Truck farming cannot be specifically tied to any one ethnic group, yet

there has been a relatively high incidence of persons of Italian or Japanese descent who have operated small, intensively-managed vegetable farms in Washington. Commercial truck gardens usually were located near large urban centers throughout the state. Cities, of course, provided both a local market and shipping outlets. Houses, barns, and other outbuildings on truck farms generally were nondescript and exhibited little, if any, ethnic influence. Japanese and Italian truck farms, in fact, usually appeared identical to those operated by other Americans. The barn, if present, usually was small and sheltered farming implements and two or three work animals. Garages for cars and delivery trucks became common in the twentieth century.

The most typical characteristic applicable to any truck garden, however, was its small size (usually less than 100 acres). The farms had few outbuildings and the fields were intensely cultivated, which gave these places a well-manicured appearance. Equipment sheds were common, but storage buildings less so, because fruits, melons, and vegetables were hauled to market as quickly as possible.

DATA GAPS AND FUTURE SURVEY/INVENTORY PRIORITIES

Through the process of subtheme determination research/data gaps were identified. Most notable are serious gaps in the overall statewide documentation of agricultural properties. Only a small percentage of extant vintage agricultural structures have been inventoried. Of those inventoried, over 200 state inventory forms were found to be inadequate, failing to meet Secretary of Interiors Standards for documentation of historic sites. Surveyors frequently only recorded and photographed the farmhouses, and largely ignored the barns, outbuildings, and the rest of the farmstead. This situation indicates that only until recently has the need to properly assess agricultural properties been considered a survey/inventory priority. These circumstances clearly illustrate the need for RP3 planning for future survey/inventories.

Historic archaeological sites containing agricultural resource types were not identified at all in this study. The lack of statewide documentation in this area suggests a serious data gap. Properties from the Diversified Farm, Pioneer Subsistence period have the potential for containing significant historic archaeological properties (i.e. Hudson Bay Company/Puget Sound Agricultural Company). Several other subthemes possibly have significant archaeological agricultural properties which need to be identified, and should be the focus of future RP3 research and survey/inventory work. It was thought that the National Forest Service Cultural Resource Site files at OAHF would contain homestead/settlement sites that possess historic archaeological significance.

The association with agriculture, however, was seldom established in the historic narratives/descriptions. Homesteading and settlements seemed more oriented towards mining occupations than agriculture.

Similar problems occurred attempting to identify agricultural properties that exhibit unique ethnic influences. The literature and site inventory review failed to identify significant ethnic architectural qualities except in Finnish barns, migrant labor camps, and truck farms. There may well be identifiable forms, cultural landscapes, and methods of construction associated with various ethnic groups that have not been identified or the subject of past cultural resource surveys/inventories. Certain vernacular agricultural forms possibly reflect ethnic influences upon design that have not yet been recognized as significant resource types. Finally, it is felt that a more

indepth analysis of ethnic influences upon the cultural landscape can be dealt with more thoroughly in the Ethnic Heritage study unit.

The identification of Ethnic Properties as a separate theme appears inconsistent with the standard methodological process of selecting themes and subthemes. In doing so the purpose was to make a special effort to identify agricultural properties with unique ethnic qualities. As mentioned only Finnish farms, migrant labor camps, and truck farms, to a degree, exhibited such properties. Existing data indicates that Blacks, Germans, Scandinavians, Canadians, and other newly-arrived immigrants basically adopted the same farming techniques and structures as other Washington residents. They were converted to the prevailing agricultural traditions which was reflected in their farming structures. These newcomers had to make adjustments to Northwest farming in order to survive in the competitive marketplace. Consequently, regional farms have been relatively homogenous in style and structure over the years. Future research and survey/inventory work in this area, however, might very well uncover data that could modify this contention.

PART III EVALUATION COMPONENT

Objectives

The evaluation component addresses the process of determining whether particular inventoried cultural resources meet the defined criteria of significance, and, therefore, should receive serious consideration for preservation. Evaluation seeks to define what types of historic resources in the study unit are considered significant and why, by using the National Register criteria of integrity and association and applying it to the historic properties of the study unit. The USDI RP3 study states that evaluation factors "create a bridge between the necessarily generalized National Register criteria and individual historic properties" (1980:19).

The major goal of this component is to assist professionals in evaluating the significance of particular historic agricultural resources. Relevant National Register criteria and integrity standards as mentioned earlier are major factors to take into consideration in the evaluation of historic agricultural resources. The King County Heritage RP3 Study states that "integrity of setting, design, and association are particularly crucial in the evaluation of agricultural resources" (1985:141). For instance, site relationships between land (setting), buildings (design), and production (association) are holistic and, thus, important in evaluating integrity for the entire resource (i.e. homestead, farmstead) and determining significance on this basis.

EVALUATION RECOMMENDATIONS (By Sub-Theme)

Following are specific recommendations for evaluation of significance for agricultural properties in each subtheme:

GENERAL FARMING

1a Diversified Farm, Pioneer Subsistence

None of these properties have remained in original condition; some alteration and decay is acceptable for inclusion on the State and National Registers.

Cabins, granaries, and outbuildings normally will qualify for the State or National Registers: e.g., John R. Jackson House NR (Lewis Co.), John F. Kelley Homestead Cabin SR (Whitman Co.).

1b Diversified Farm, Market Production

Complete farmstead units are most significant, particularly those including structures with unaltered interiors: e.g., Olmstead Place State Park NR (Kittitas Co.), Hovander Homestead NR (Whatcom Co.) Partial farmsteads, solitary structures, and buildings with altered interiors sometimes can be significant for age, outstanding architectural styling, or historical significance: e.g., Berthusen's Barn SR (Whatcom Co.), Sutton Barn NR (Spokane Co.). Extensively altered or deteriorated barns and outbuildings, and lesser, solitary features such as root cellars, corrals, or fences, normally should not be considered for listing on the registers. Standing and largely unaltered round or polygonal barns normally will

qualify for the State or National Registers: e.g., George Leonard Round Barn HABS (Whitman Co.), Wiester Round Barn NR (Wahkiakum Co.)

LIVESTOCK

2 Commercial Dairying

The interiors of practically all operating dairy barns have been altered due to modernization and electrification, but the long-term function is continuous. These changes should not be considered to have impaired integrity: e.g., Pickering Farm NR (King Co.)

3a Cattle Ranching, Open Range Phase

Few of these properties have remained in original condition; some deterioration and alteration is acceptable. Cabins normally qualify for the State or National Registers: e.g., Ben Snipes Cabin SR (Yakima Co.), Mattoon Cabin NR (Yakima Co.) Solitary corrals, root cellars, and fences sometimes qualify for the registers if integrity is especially good or the feature is particularly significant: e.g., Strap Iron Corral NR (Adams Co.)

3b Cattle Ranching, Enclosed Grazing

Complete ranch units are most significant, particularly those including structures with unaltered interiors: e.g., Stephen Devenish Ranch SR (Adams Co.).

4 Horse Raising

Few of these properties have remained in original condition; some decay and alteration is acceptable for possible listing on the Registers.

5 Sheep Raising

Sheep ranching has declined drastically in the past 50 years; consequently, most properties have experienced decay and alteration. Sheep barns and ranches possibly qualify for the State and National Registers: e.g., Archie's Camp (Whitman Co.), and Coffin Sheep Company (Benton Co.). Transitory features such as sheep driveways and summer camps usually are do not warrant listing on the Registers.

6 Small Animal Husbandry

Solitary sheds, pens, portable colony pig houses, poultry houses and farrowing barns do not qualify for the State or National Registers. To qualify they must be part of a significant, intact farmstead.

CROPS

7 Grain Production

Complete farmstead units usually are the most significant, particularly those including structures with unaltered interiors: e.g., California Ranch NR (Spokane Co.), Seivers Brothers Ranch House and Barn NR (Adams Co.).

Partial farmsteads, solitary structures, and buildings with altered interiors sometimes can be significant for age, outstanding architectural styling, or historical importance: e.g., Jamestown Granary SR (Thurston Co.), Collins House NR (Whitman Co.).

Extensively altered or deteriorated barns and outbuildings, or other lesser, solitary features, such as root cellars, fences, etc., normally should not be considered for listing on the State or National Registers.

None of the chutes, pipelines, and tramways have remained in use or in original condition; extensive decay or alteration are acceptable. The better preserved and more significant properties may qualify for the State or National Registers: e.g., Mayview Tramway (Garfield Co.).

8 Horticulture

Entries in this category are quite diverse, and include plant life as well as man-made structures: e.g., Fowler Pear Tree SR (Snohomish Co.), Hiram F. "Okanogan" Smith Orchard NR (Okanogan Co.), Arndt Prune Dryer NR (Clark Co.), Nathaniel Orr Home and Orchard NR (Pierce Co.).

Architecturally significant houses of historically important horticulturalists may qualify for the State or National Registers: e.g., W.P. Sawyer House NR (Yakima Co.).

9 Floriculture and Nursery Production

Entries in this subtheme can include either plant life or man-made features: e.g., Hulda Klager Lilac Gardens NR (Cowlitz Co.).

Architecturally significant houses of historically important floriculturalists may qualify for the State or National Registers: e.g., Charles Orton Residence NR (Pierce Co.).

10 Hop Production

Most or all of these structures have been long abandoned or remodeled; some deterioration or alteration is acceptable. Any standing and largely unaltered hop kiln normally will qualify for the State or National Registers: e.g., Woolrey-Koehler Hop Kiln NR (Pierce Co.), Fall City Hop Curing Shed SR (King Co.). Architecturally significant houses of important hop growers may qualify for the registers: e.g., Ezra Meeker Mansion NR (Pierce Co.), Herbert and Sidney Williams Houses NR (Pierce Co.).

11 Irrigation and Reclamation

Some excellent features already have been listed on the National Register: e.g., Burbank Homestead Waterwheel NR (Chelan Co.), Conconully Reservoir Dam NR (Okanogan Co.), Sunnyside Diversion Dam and Canal Headworks Det. El. NR (Yakima Co.).

Architecturally significant houses of important developers and engineers may qualify for the State or National Registers: e.g., C.C. Van Arsdol House NR (Asotin Co.), Wells House NR (Chelan Co.), James Moore House NR (Franklin Co.).

ETHNIC PROPERTIES

12a Finnish Barns

Prominent and unaltered Finnish barns (and farms) may qualify for the State or National Registers.

12b Migrant Camps

Only the least altered and most prominent migrant camps will qualify for listing in the State or National Registers.

12c Truck Farming

Reasonably intact and unaltered ethnic truck farms having significant architectural or historical qualities may qualify for listing on the State or National Registers: e.g., Saturno-Breen Truck Garden NR (Walla Walla Co.).

PART IV PROTECTION COMPONENT

The United States Department of the Interior (USDI) RP3 study defines this component of the study unit as preservation concerns or protection questions that relate only to historic properties which have been evaluated as important. "Protection focuses on the appropriate, yet practical, disposition or treatment steps to preserve the aspects of these properties that give them importance" (USDI 1980). Therefore, this component will identify various strategies which may have positive impact in protecting significant agricultural properties.

Agricultural properties have suffered from attrition in large part from changing technology and economic pressures. New equipment, materials, and methods result in old farm buildings rapidly becoming functionally obsolete. Routine maintenance of farmstead buildings can become a financial drain to already economically stressed farmers. Therefore, from the owner's point of view, there are sound reasons for not undertaking preservation measures. The incentive for destruction is enhanced by the increasing value of agricultural structures as scrap material. Furthermore, agricultural properties increase in value when located within close proximity to expanding non-agricultural land uses. This increase is manifested in pressure to convert the land from agricultural to commercial, industrial, or high density residential uses. The end result is that the original context of the farm properties is lost and the significance diminished.

The preservation of significant agricultural properties at the original site and in original or compatible use is recognized and advocated as the ideal or preferred protection strategy. Realistically, the preferred alternative is rarely an option. This is particularly true for agricultural properties in view of the specialized set of circumstances and functions for which these structures were built and operated.

The study unit recognizes that factors such as location, use, and agricultural economics serve to work against preferred preservation of agricultural resources. Therefore, the protection component is intended to identify other appropriate strategies which may be utilized in realizing preservation of threatened farmsteads. Further, survey and nomination gaps identified elsewhere in the study can serve to direct OAHF survey and nomination efforts where needed.

A comprehensive survey and nomination strategy will result taking into consideration informational needs identified through development of all OAHF historic study units. The following strategies vary in complexity, impact, applicability, and responsibility for implementation:

* Survey/Inventory

Identification of historic agricultural properties is an important first step in the protection process. OAHF is responsible for identifying these sites throughout the state. As indicated in this study unit, agricultural properties are under-represented in OAHF's inventory. As indicated by the map following page __, very few counties show evidence of adequate representation of agricultural sites in the inventory. Further, Table __ on page __ indicates under-representation for each sub-theme and associated property types. This information clearly indicates that future survey efforts should be sensitive to identifying and documenting agricultural sites. In addition, future survey efforts should target counties with a strong agricultural heritage and an

apparent lack of inventory data. Examples would include Garfield County in Eastern Washington and Skagit County west of the Cascades. Properties to be inventoried should attain minimal levels of integrity with original massing and plan intact, and original materials and significant elements visible.

* National/State Register of Historic Places

The National Register of Historic Places is the federal government's official list of properties that are significant to the cultural heritage of the United States. The State Register of Historic Places is similar to the National Register, although criteria for designation is not as stringent. Both National and State Register listings are honorary designations. Designation is intended to encourage preservation of designated properties through recognition of these sites as of national, state, or local significance. To this end, the historic registers are seen as planning tools which identify sites as of particular significance and therefore of importance to protect. As a protective device, neither register place restrictions on property owners; the exception being review by OAHF of federal projects which may impact upon National Register listed properties. Several agricultural properties in Washington have been listed on the state and National Register including the Strap Iron Corral in Adams County, Olmstead Place in Kittitas County, and the Woolrey-Koehler Hop Kiln in Pierce County.

* Rehabilitation/Interpretation

Carefully documented restoration and interpretation efforts are recommended for threatened significant agricultural properties. Costs of completing restoration, maintenance, and appropriate interpretation are of particular concern. Usually, a restoration/interpretation project for exhibition purposes is the realm of public recreation agencies or non-profit organizations such as museums or historical societies. Washington examples of historic agricultural properties maintained for interpretation include Olmstead Place State Park near Ellensburg and the Hovander Homestead County Park in Whatcom County.

* Adaptive Reuse

Throughout Washington, many historic structures have been rehabilitated upon the introduction of a new and different use. Adaptive reuse is particularly noteworthy when the historic structure has outlived its original function and faces an uncertain future. Adaptive reuse may consist of few if any architectural changes to elaborate designs which may redefine the structure's architectural character in an innovative approach. In regard to agricultural properties, inventive adaptive reuse examples in Washington include the Sutton Barn at Eastern Washington University adapted to a campus information/security facility, the Beef Barn at Washington State University in Pullman being adapted as the Alumni Center, and structures such as stables and granaries being rehabilitated as residences or small offices.

* Local Designation/Design Review

In many communities, local preservation mechanisms have been established which may have significant impact on protection of historic properties. Enacted by local legislative bodies, these design review boards or commissions

are involved in the review and comment of proposed alterations of designated structures and on-going survey of local historic properties. The local review process is important in promoting historic preservation and enforcing local preservation policies and legislation. Historic preservation commissions in both King and Pierce counties are examples of a local designation/design review board which have jurisdiction over important agricultural regions and landscapes. The establishment of such bodies should be encouraged including participation in the Certified Local Government (CLG) program. Local designation and review may apply to rural areas when counties institute such mechanisms.

* Investment Tax Credits

The federal Investment Tax Credit (ITC) program may have limited applicability to most agricultural properties. However, the 25% tax credit on costs for certified rehabilitation may apply for work performed on agricultural buildings which are income producing. Innovative adaptive use of National Register listed agricultural buildings may be facilitated by the tax credits. The rehabilitation of the Cloverland Garage in Asotin County is an example of the ITC's being used in a rural context.

* Property Tax Valuation

The state legislated property tax valuation program may have greater applicability to preservation of agricultural structures than the investment tax credit. This program is implemented at local option and provides for a property tax valuation freeze when approved rehabilitation is undertaken on National Register properties, income producing or not. The program is also available to property owners located in communities participating in the Certified Local Government program. When implemented, the property tax valuation defers property tax increases for ten years after completion of approved rehabilitation. The Property Tax Valuation program may also be applied in combination with other preservation strategies.

* Farmland Preservation Programs

Attrition of agricultural structures often occurs when economic pressures are applied to the operating farm. Farmland preservation devices are intended to address the viability of farms by reducing the impact of high property values and accompanying high taxes.

Several innovative programs have been implemented across the nation and in Washington. The King County Farmland Preservation bond issue funds allowed the County to purchase and hold in perpetuity development rights of agricultural land. The purchase of the development rights assures use of the land for agricultural purposes. Other counties have considered pursuing a similar purchase program. Covenants and easements are legal devices which are very similar to the King County program. Included within the property deed, the covenant or easement is held by a third party and insures the use of property as stipulated in the instrument. Easements can be used to protect open space, historic properties, natural resources, and scenic areas. The use of easements has been somewhat clouded by Internal Revenue Service challenges to tax deductions taken in exchange for donation of an easement. Another method similar to purchase of development rights is land banking. Enacted in a few eastern United States settings, land banking involves outright purchase and

maintenance of land determined to be environmentally or aesthetically sensitive. Purchase funds are leveraged through a special local option tax such as a real estate transfer tax. Land banking is appropriate in rural areas facing intense development pressures.

The state enacted Open Space Taxation Act (RCW Chapter 84.34) allows communities at local option to contract with property owners to assess agricultural or open space land at current use value. Taxes are not paid on the basis of development potential. Usually back taxes and a portion of the interest must be paid by the property owner once the land is converted to another use. Although widely adopted in Washington, Spokane County is an example of a community which uses the Open Space Taxation Act to encourage preservation of structures listed on the local, state, and/or National Register.

Similar in concept to the Open Space Taxation Act is agricultural districting. Enacted in several states, this mechanism allows classification of farmland into special use districts. With some variation, these districts 1) receive protection by review of public works projects which may incur upon or inhibit agricultural practices, 2) are exempt from being assessed for growth inducing projects such as sewer or water lines, and 3) receive legal protection for carrying on agricultural activities. In exchange, land must be used for agriculture only and is assessed on that basis. Upon conversion, foregone taxes are paid in addition to assessments for infrastructure improvements.

Transfer of development rights (TDR) is an innovative legal device which transfers development potential, as permitted by local zoning, from one parcel to another parcel. In practice, the sending parcel is restricted to a lower intensity use while the receiving parcel is permitted development at higher density than allowed by the underlying zoning category. Though rarely applied to agricultural purposes, transfer of development rights has been adopted in Island County to protect environmentally sensitive and prime agricultural land. The Island County program was inspired by the National Park Service (NPS) effort to preserve important historical, agricultural, and scenic lands in the Central Whidbey Island Historic District. In this nationally recognized pilot program, NPS purchased development rights to key properties within the district threatened with inappropriate development. The Island County TDR program should be monitored to determine impact on preservation of farmland and associated historic properties.

* Master Planning and Zoning

Local planning and zoning is suggested as a tool to protect farmland and associated historic structures. This may be manifested in local planning policy statements; implementation of minimum lot size zoning in agricultural regions, clustering, and planned unit developments; and capital investment policies which direct inappropriate infrastructure improvements away from prime agricultural lands or districts.

* Documentation

In the event preservation of a significant property is not possible, the structure should be carefully documented. This documentation should be to the standards of the Historic American Building Survey and/or Historic American Engineering Record.

* Relocation

In the event that preservation in place of a significant property is not possible, relocation of the structure should be investigated. Structural integrity should be carefully considered before movement. Further, care should be taken in selecting the site to which a historic property is being moved. Specifically, the new site should resemble the original physical context of the moved structure. The Teapot Dome Service Station in Yakima County is an example of a successful relocation.

* Public Awareness/Education

Public awareness efforts are effective in building recognition of the significance of historic agricultural properties and support for implementation of more substantive protection tools. Awareness efforts may include but not be limited to tours, festivals, exhibits, audio-visual presentations, etc. Further, OAHF should identify and work in conjunction with public agencies, non-profit groups, and private organizations which function as advocates for agricultural interests. Examples of such organizations include granges, the Farmland Preservation Trust, County Extension Service agents, and the Washington State Farm Bureau.

* Archaeological Recovery

Archaeological recovery of information from significant agricultural sites is encouraged whenever possible. This recovery should occur when such sites are discovered as a result of an unrelated activity or for known sites for which such data has not yet been obtained. Since archaeological sites containing historic agricultural properties were not identified in this study, the defining of preservation strategies for such properties would be better treated in a historic archaeological study unit.

In addition to the preservation strategies identified above, this document would further suggest that a study be undertaken to determine which, if any, state agencies working in accord with state statutes or policies, work to either promote attrition or preservation of historic agricultural properties. Results of this study would direct efforts to revise or modify such state policies.

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APPENDIX

Identified Agricultural Properties As of September 1985 (By County, Sub-Theme, Resource Type, and Registration Status)

Abbreviations: Registration Status

National Register Site--NR
Determined Eligible for National Register--DE
State Register Site--SR
State Inventory--IN

ADAMS

1a Morgan, Simon, Homestead IN
1b Jansen, August, Farm IN
1b Hooper, Albert, Cistern IN
4a Strap Iron Corral (reference Jim Kennedy Ranch) NR
4a Kennedy, Jim, Ranch (reference Strap Iron Corral) IN
4a Rock Corral (1-162) IN
4b Devenish, Stephen, Ranch SR
8a Seivers Brothers Ranch House and Barn NR
8a Allen, Samuel, Farm IN
8a Binford, Ed, Farm IN
8a Danedas, W.G., Farm IN
8a Dettman, August, Farm IN
8a Fox, Medford, Farm IN
8a Geschke, Julius Farm IN
8a Goodenough, William, Farm IN
8a Heimbigner, Henry, Homestead IN
8a Hunt, Arthur E., Farm Shop IN
8a Heater, Ed, House IN
8a Helme, Matthew E., Farm IN
8a Hoskins, George, Homestead IN
8a Karrach, Richard, Farm IN
8a Lee, R.E., Farm IN
8a Olson, John N., Farm IN
8a Sauer, David, Farm IN
8a Thiel, John, Farm IN
8a Thomas, S.L., Farm IN
8a Williams, William R., Farm IN
8a Yeisley, William W., Farm IN
12 Palouse Irrigation Company (1-122) IN
12 Palouse Irrigation Company (1-126) IN
12 Sheep Springs Dam IN

ASOTIN

12 Van Arsdol, C.C., House NR
12 Toop's Lake Irrigation Ditch (L.K. Brown's Folly) IN
12 Clarkston Hydrologic Project (Asotin Power House) IN
12 Clarkston Hydrologic Project (Clarkston Highland Flume) IN
12 Clarkston Hydrologic Project (Headgates Dam) IN
12 Clarkston Hydrologic Project (Pomeroy Gulch Dam and Reservoir) IN

BENTON

6 Coffin Sheep Company IN
8a Edwards Homestead IN
8a McBee Farmhouse and Outbuildings IN
11 Barn (Prosser Hop Kiln) IN
12 Coyote Rapids Pumping Plant IN
12 Hanford Irrigation Canal IN

CHELAN

9 Horan, Mike, House IN
12 Burbank Homestead Waterwheel (Captain Stoffel Waterwheel) NR
12 Miller (Phillip) Lowline Irrigation Ditch IN
12 Dutch John's Spring IN
12 Wells House IN
12 Wenatchee Highline Canal IN
12 Woods (Rufus) House IN

CLALLAM

1a Nunez Gaona (Neah Bay) Site IN
1a Roose, Peter A., Homestead SR
1b Knutsen Ranch IN
1b Dyer-Lepper Farm IN
3 Gierin Milk Cooling Tower IN
3 Davis, Hall, Dairy IN
3 Chambers Barn IN
3 Clark Homestead Barn IN
3 Davis, Alonso, Dairy IN
12 Bagley Lake Farm Tunnel SR
12 Sequim Irrigation District (Dungeness Irrigation Ditches) IN

CLARK

1b Grant (Ulysses S.) Potato Patch Site IN
3 Wacoma Farm IN
3 Dillon DLC; Dietderich Farm IN
3 Blurock Farmhouse IN
9 Old Apple Tree (Hudson's Bay Company Apple Tree) IN
9 Arndt Prune Dryer NR
9 Prune Dryer (#190) IN
9 Anderson-Beletski Prune Farm NR
9 Allworth (Alfred Sr.) Farmstead IN
12 Eureka Ditch or China Ditch IN

COLUMBIA

-0-

COWLITZ

10 Klager, Hulda, Lilac Gardens NR

DOUGLAS

1b Ruud Ranch IN
5 Buckley (Si) Summer Camp IN
5 McCartney Crossing Site IN
8b Keane Wheat Pipeline IN
8b Waterville (Orondo) Tramway IN
12 Grand Coulee Dam IN
12 Palisades Reclamation District IN
12 Scheble and Stevens Irrigation Flume IN

FERRY

1b Somday, Joseph, House (Old Somday Place) IN
1b Somday, Joseph, House (Log House) IN
4a Chief Tonasket's Place IN
4a Baptiste Tonasket Ranch IN

FRANKLIN

12 Franklin County Irrigation District (#1) IN
12 Moore, James, House NR
12 Pasco Reclamation Company Pumping Plant IN

GARFIELD

8b Mayview Tramway IN

GRANT

4a Blythe (Lord Thomas) House IN
4a Beezely Springs IN
5 Iron Springs Horse Ranch (Land Office) IN

GRAYS HARBOR

-0-

ISLAND

-0-

JEFFERSON

3 Eldridge Barn IN

KING

1a Maidmen Homestead IN
1b Wilke Farmhouse NR
1b Prenatt, Albert, Barn IN
1b Faulds Homestead Barn IN
3 Pickering Farm NR
3 Hollywood Farm-Residence and Grounds NR

3	Segis Pietertje Prospect Monument	IN
3	Gunderson Barn	IN
3	Hjertoos Farm	IN
3	Carnation Milk Farms	IN
3	Wold, John and Anne Homestead	IN
3	Tosh Barn	IN
7	Kent Hatchery	IN
7	Hollywood Poultry Farm	IN
10	Morasch House	IN
11	Hop-Curing Shed (Fall City)	SR
13c	Ray House	IN
13c	Torre House	IN
13c	Redington Historic District	IN

KITSAP

1b	Bucklin House	SR
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KITTITAS

1b	Olmstead Place State Park	NR
1b	Springfield Farm	NR
1b	Nelson, Albert, Farmstead	NR
1b	Kinkade, John W., Farmstead	NR
6	McPherson, Angus, Monument	IN

Klickitat

4a	Snipes Family Monument (Snipes Butte)	IN
9	Mt. Adams Orchard Company	IN

LEWIS

1a	Jackson, John R., House	NR
1b	Cowlitz Farm (Puget's Sound Agricultural Company) Site	IN
2	Round Barn (Noah B. Coffman)	IN
3	Scheuber, Fred, Home	IN
8a	Grain Dryer (Boistfort-Wildwood Road)	IN
8a	Borte Home	IN
13a	Havila Farm	IN

LINCOLN

-0-

MASON

9	Islan Belle Grapevine (Bridgeview)	IN
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OKANOGAN

4a	Cariboo Trail Marker	IN
4a	Cariboo Trail (Okanogan Segment)	IN
6	Curtis Sheep Massacre Site	IN

9 Smith, Hiram F., Orchard NR
12 Okanogan Project: Concully Reservoir Dam NR

PACIFIC

9 Chabot (Anthony) Cranberry Bog (Site) IN

PEND OREILLE

-0-

PIERCE

1a Fort Nisqually Granary and Factors House NR
3 Dairy Barns (Western Washington Research and Extension Center) IN
3 Nyholm Water Tower (PC-139-11a) IN
3 Flett Dairy (PC-136-7a and 11a) IN
7 Hansen, Peter, Farm IN
7 Carlson, August, Farm IN
9 Orr, Nathaniel, Home and Orchard NR
10 Orton, Charles W., Residence NR
11 Hop Kilns of the Puyallup Valley IN
11 Meeker, Ezra, Mansion NR
11 Woolrey-Koehler Hop Kiln NR
11 Williams, Herbert, House NR
11 Williams, Sidney, House NR

SAN JUAN

3 Clapp Ranch Dairy Barn IN
9 Windy Hill Farm Apple Packing Building IN

SKAGIT

10 Tillinghast Seed Company IN
12 Sisson, E.A., Home at Padilla (Fairview Farm) IN
12 Sullivan, Michael J., House IN

SKAMANIA

-0-

SNOHOMISH

9 Fowler Pear Tree SR

SPOKANE

1a Oldest Remaining Log Structure in Spokane County IN
1b Sutton Barn NR
1b Wendler, Henry, Place IN
1b Morris, Michael, Homestead IN
1b Glentana Farms IN
1b Goetchius Place IN

1b Glenrose Greenhouse (2 Houses) IN
 1b Browne, J.J., Ranch IN
 1b Anderson Rock Barn IN
 2 Hardin's Round Barn IN
 2 Middleburg Farm IN
 3 Hazelwood Farm IN
 4a Wimpy Homestead IN
 4b Dahl-Dunbar Homestead IN
 5 Heathdale Farm IN
 8a California Ranch NR
 8a Davey, John, Homestead IN
 12 Newman Ditch IN
 12 Corbin Ditch IN
 12 Barth Brothers Tower IN
 12 Ingleford Irrigated Tracts IN
 12 Holder, Wilhelm and Rose, Home IN

STEVENS

1a Desautel/L.W. Meyers Donation Ranch SR

THURSTON

8a Jamestown Granary SR

WAHKIAKUM

2 Round Barn (Wiester, see also Skamokawa Historic District) NR
 2 West Farm IN

WALLA WALLA

1a Whitman Mission National Historic Site NR
 12 Burlingame Ditch IN
 12 Old Lowden Ditch IN
 13c Saturno-Breen Truck Garden NR

WHATCOM

1b Berthusen's Barn SR
 1b Hovander Homestead NR

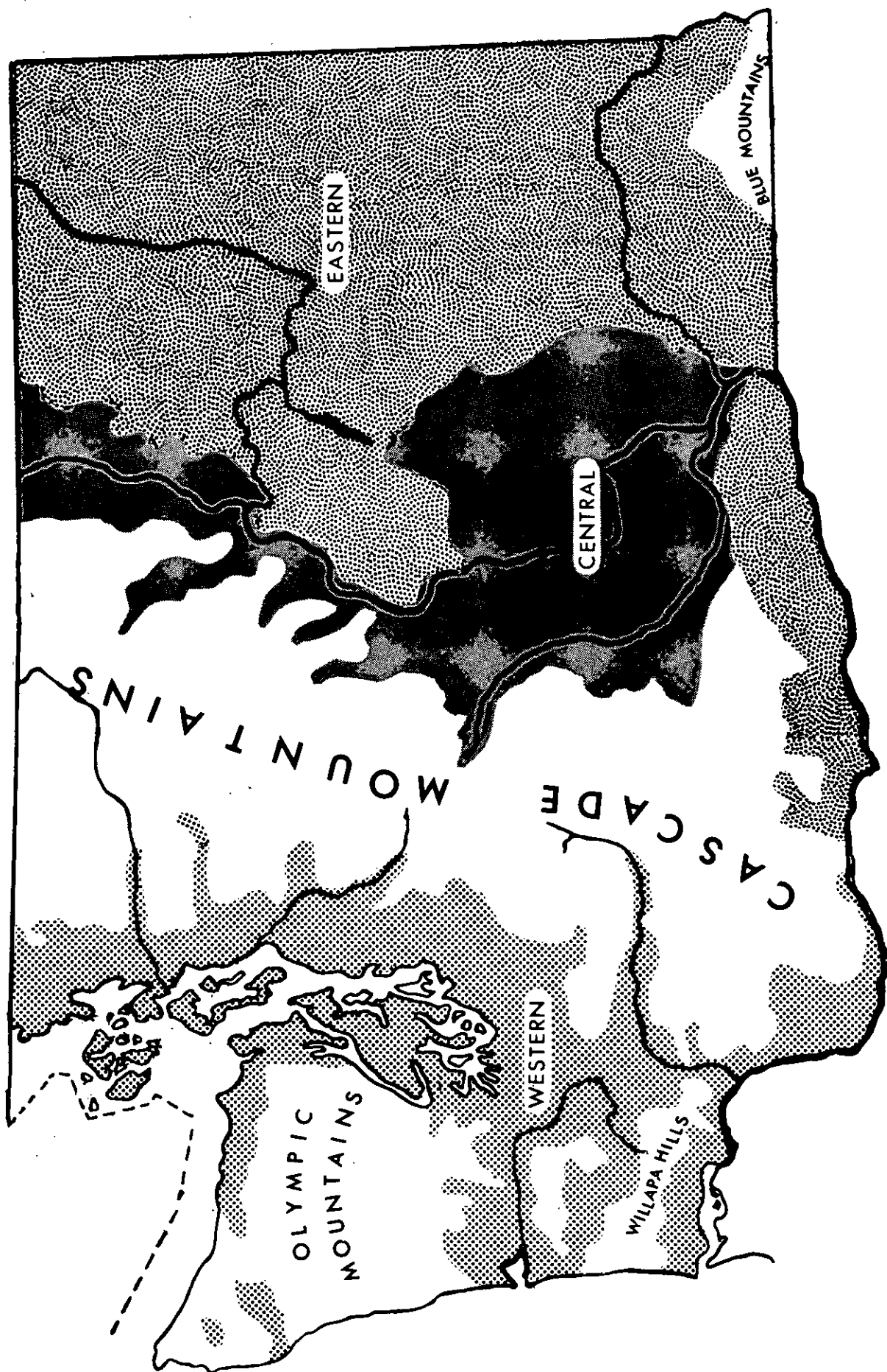
WHITMAN

1a Kelley, John F., Homestead Cabin SR
 2 Round Barn (Richard Hall) IN
 2 Leonard, T.A., Barn NR
 4a Robber's Roost (Robber's Glen) IN
 6 Archie's Camp IN
 8a Collins House & Granary NR
 12 Palouse Irrigation and Power Company Dams, Flumes, and Ditch IN
 12 Palouse Irrigation and Power Company Power Plant IN
 12 Rock Lake Dam IN

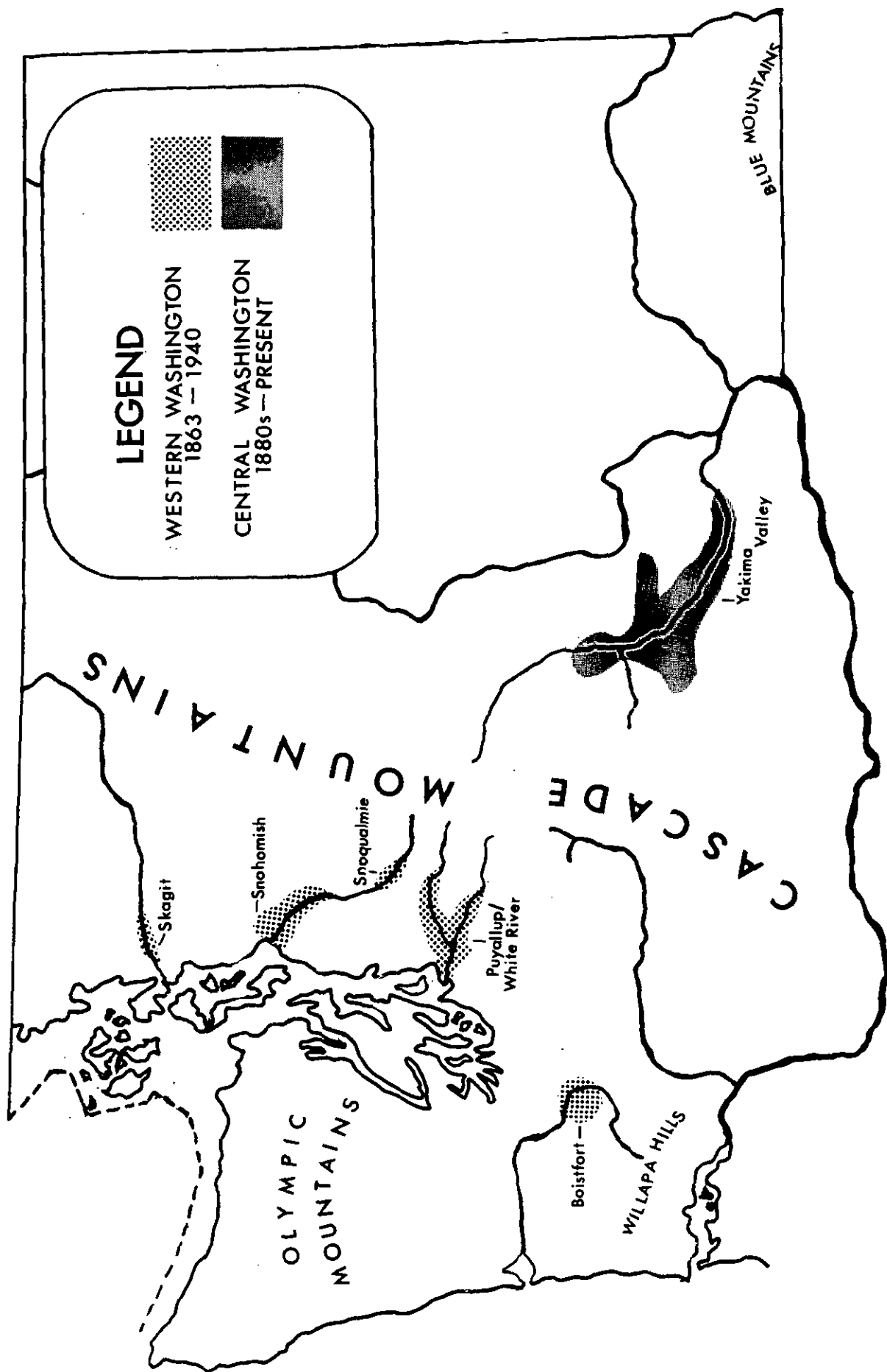
YAKIMA

1a	Kamiakin's Gardens	NR	
1a	Ohee Ow His Gardens Marker	IN	
1b	Gilbert, H.M., House	SR	
1b	LaFramboise Property	NR	
2	Round Barn (H.H. Ayers)	IN	
2	Round Barn and Silo (Marble Ranch)	IN	
4a	Mattoon Cabin	NR	
4a	Snipes, Ben, Cabin	SR	
4b	"Black Dog" Buffalo Memorial	IN	
9	Sawyer, W.P., House & Orchard	NR	
12	Sunnyside Diversion Dam and Canal Headworks	DE	
12	Outlook Irrigation District	DE	
13b	Ahtanum Mexican Labor Camp	IN	
13b	Crewport Mexican Labor Camp	IN	

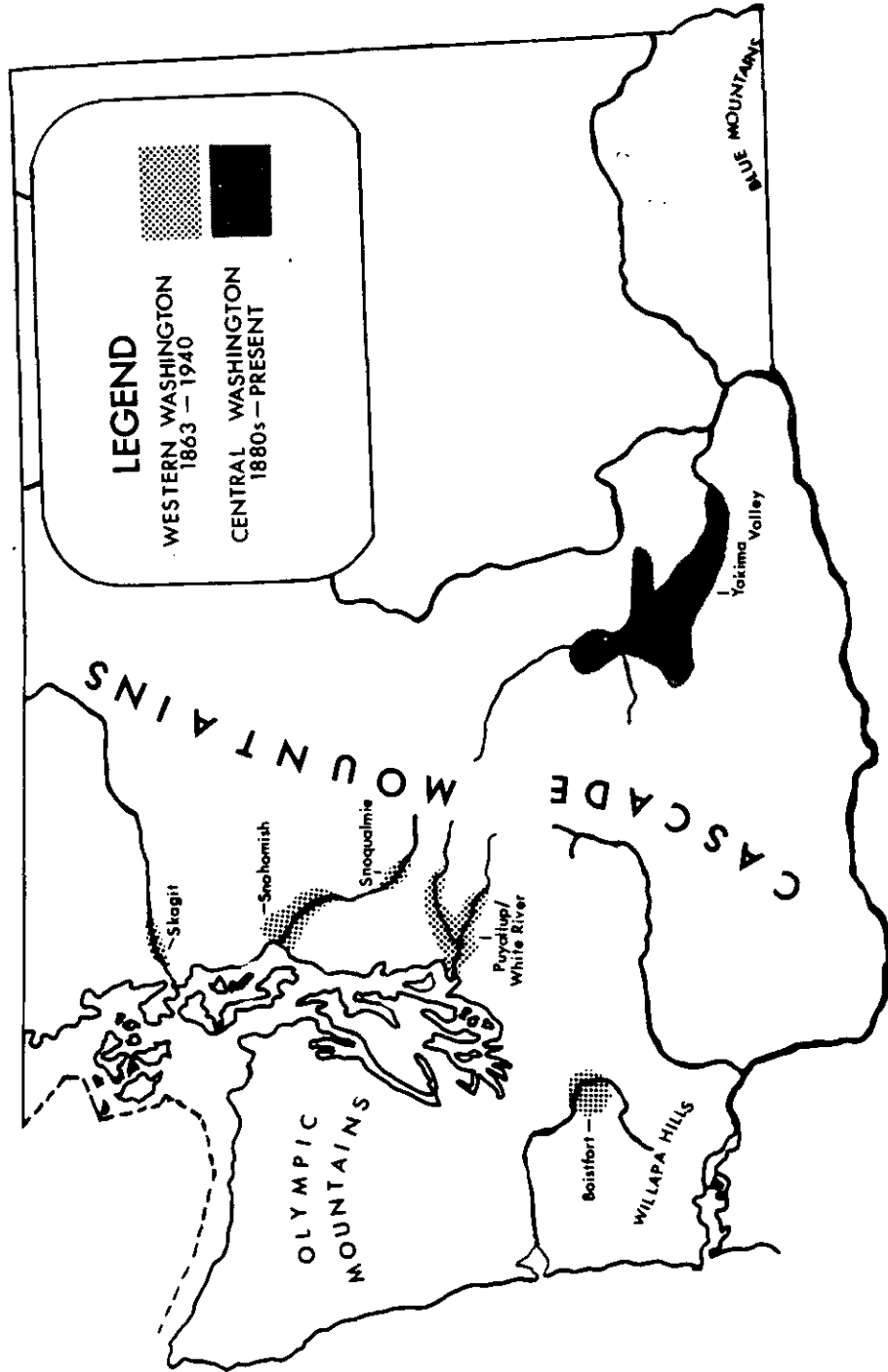
AGRICULTURAL REGIONS



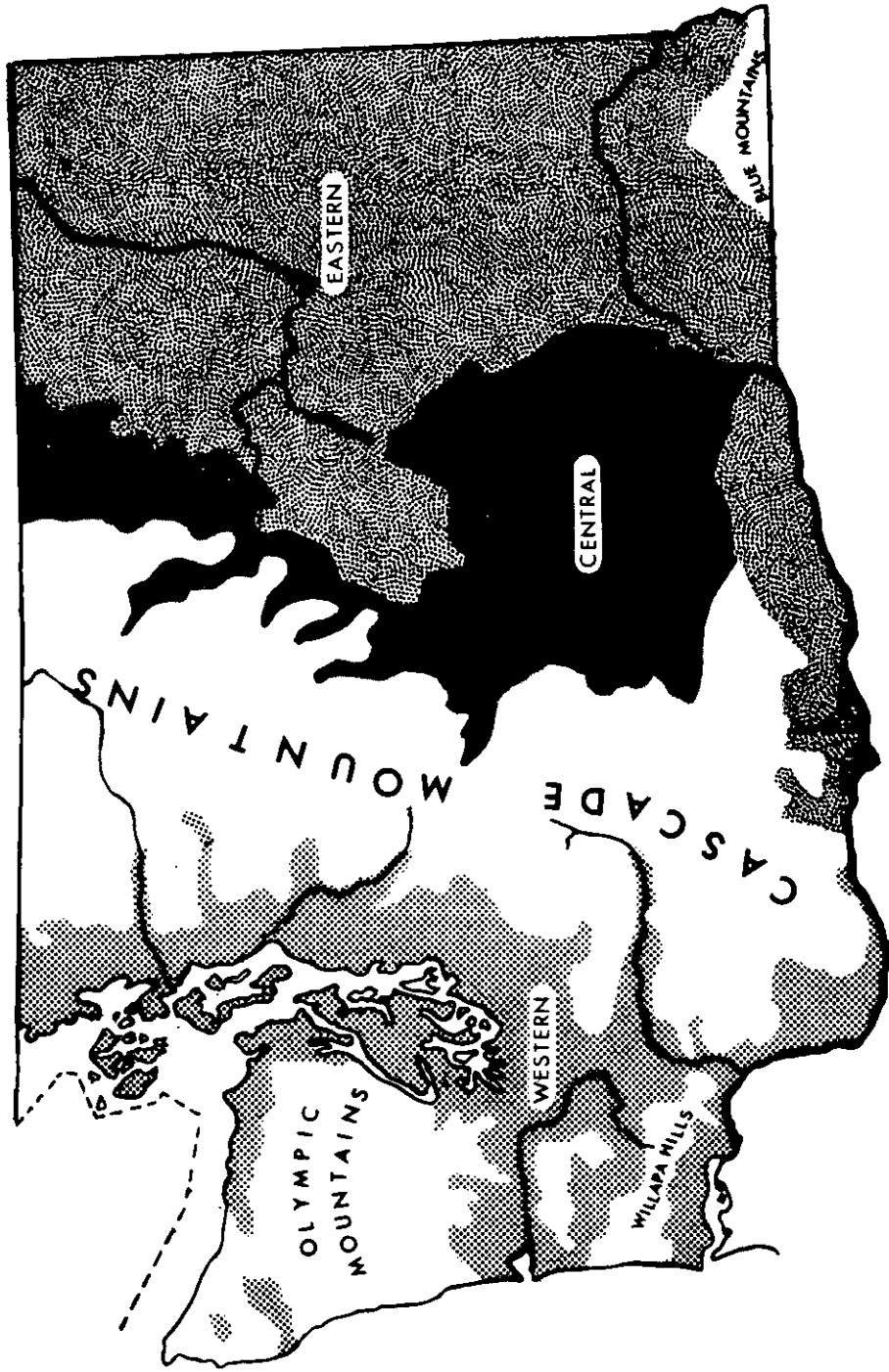
MAIN HOP-GROWING AREAS



MAIN HOP-GROWING AREAS



AGRICULTURAL REGIONS



INVENTORIED AGRICULTURAL SITES AS OF SEPTEMBER, 1985

7

2	2	5	4	1	0
2	3				
11	0				
1	1	7			
1	19	8	0		22
0	1				
1					
0	5	3			
1	13		31		9
1	7		3		
2	1	6	4	0	
11	0				
	2				
	11				

BY
COUNTY

be

6

AGRICULTURAL SUB-THEMES AND RESOURCE TYPES

60°
P
E
B
C
N
I
V
V
L
H
Q
A
T
S
R
Z

Total number of agricultural resource types listed in the National Register, State Register, and State Inventory.